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THE OBJECTIVE OF THIS STUDY WAS TO MINIMIZE THE VARIABILITY IN LEGAL AND EDUCATIONAL CLASSIFICATION OF THE MENTALLY RETARDED. A SYSTEMATIC REVIEW WAS MADE OF THE SEMANTIC VARIATIONS IN THE DEFINITION OF THE MENTALLY RETARDED IN TERMS OF FUNCTIONAL ADEQUACY FOR EDUCATION, TRAINING, OR CUSTODIAL CARE. THE METHOD INVOLVED THE REVIEW OF STATUTES AND REGULATIONS ABOUT THE CLASSIFICATION AND EDUCATION OF THE MENTALLY RETARDED, A SURVEY OF PROCEDURES USED IN THEIR CLASSIFICATION, AND AN EXAMINATION OF PUBLISHED SOURCES FOR NAMES USED IN THEIR CLASSIFICATION. ON THE BASIS OF THE PRESENT REVIEW OF LITERATURE, A TENTATIVE MULTIDIMENSIONAL SYSTEM FOR THE DEFINITION OF TERMS HAS BEEN DEVELOPED. THE PROPOSED SYSTEM CONSISTS OF A NUMBER OF DIMENSIONS CONCERNED WITH ETIOLOGY FUNCTIONING, STATUS, AND PROGNOSIS. EACH DIMENSION IS DIVIDED INTO SEVERAL SUBCATEGORIES, REPRESENTING EITHER QUALITATIVE DIFFERENCES, AS IN ETIOLOGY, OR QUANTITATIVE DIFFERENCES. THE DEVELOPMENT OF THIS SYSTEM WOULD PROVIDE SOME STANDARDIZED SET OF REFERENCES FOR DEFINING TERMS. IT IS UNLIKELY THAT ONE SET OF TERMS WILL BE ACCEPTED AND FOUND TO BE GENERALLY USEFUL IN THE VARIETY OF SETTINGS IN WHICH PROBLEMS OF MENTAL RETARDATION ARE OF CONCERN, BUT A STANDARD SYSTEM OF DEFINING TERMS WOULD PROVIDE A COMMON BASIS FOR COMMUNICATION AND TRANSLATION FROM ONE SET OF USAGES TO ANOTHER. FURTHER RESEARCH MIGHT INVESTIGATE THE INTERRELATIONSHIPS AMONG THE VARIOUS DIMENSIONS OR MIGHT BE DIRECTED AT METHODS OF SUMMARIZING THE DESCRIPTIVE DATA, USING VARIOUS SCORES, CUT-OFF POINTS, OR PROFILES, AND RELATING THIS INFORMATION TO EDUCATIONAL AND THERAPEUTIC GOALS. (JL)

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TERMINOLOGY AND CONCEPTS IN APPRAISING THE MENTALLY RETARDED

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TERMINOLOGY AND CONCEPTS

The purpose of this report is to review terminology and concepts in mental retardation. Results of a content analysis of the literature are presented, and major concepts related to classification and diagnosis are reviewed. Problems and issues in terminology are discussed, and finally, recommendations are proposed for the definition and usage of terms.

PROCEDURE

One hundred and eighty-eight articles, monographs, and books, in addition to state laws, and regulations of ten representative cities were reviewed, and definitions of suggested terms and criteria for diagnosis were content analyzed. The analysis consisted of classifying each bit of information in a proposed definition into one of seven content categories. These categories, developed on a preliminary review of the literature, were designed to classify the wide range of information contained in discussions of etiology, functioning, and prognosis of the mentally retarded.

Categories of Analysis

1. Etiology includes information concerned with causes of mental retardation. In general, this involves broad distinctions of etiology, such as familial or acquired, but does not consider specific medical discussions of causal factors or detailed medical classificattions of clinical types.

2. Intellectual functioning includes any estimate or description of intellectual functioning and usually is presented in terms of intelligence quotient (I.Q.) or mental age (M.A.). The category is concerned primarily with functioning rather than with intellectual potential. Statements about possible changes in intelligence are considered under prognosis.

3. Educational functioning includes statements about educational achievement or educational handicaps and problems. Whenever mentioned in the literature, specific grade level of achievement or degree of educational retardation is noted.

4. Maturation and social competence includes the development of motor, social, and self-help competencies, such as toilet-training, feeding, and dressing, as well as more advanced social and vocational abilities. This category is concerned with the ability of the individual to function in everyday life, and is based on an integration of not only Gesell's concept of developmental levels, but also Doll's concept of social maturity. Both current functioning and history of development are considered.

5. Psychological functioning and status is concerned with emotional adjustment, temperamental stability, and characteristic interpersonal behavior.

6. Physical and environmental status concerns information relevant to sensory and motor functioning, speech, general health, and other physical characteristics. Also included in this general category are statements about important environmental factors, such as degree of deprivation or stress.

7. Prognosis involves estimates of predicted functioning and is particularly concerned with permanence of the condition, reversibility, and improvement.

RESULTS

Terms found in the literature have been grouped according to similarity of definition, purpose, and usage. The results are presented on the basis of these groupings. The five groups of terms are: (1) general terms; (2) etiological terms; (3) terms concerned with degree of retardation; (4) educational terms; and (5) legal terms. In addition, the concept of pseudo-feeblemindedness and problems of diagnosis are discussed.

For each group of terms, a summary of the content analysis is presented in tabular form, all tables following the same general pattern of presentation. In each table, the major terms, synonyms, and functionally equivalent terms are listed in the left-hand column. Each of the remaining columns deals with one of the seven categories of analysis, starting with etiology and continuing across the table to prognosis. The various factors proposed in the definition of a given terms are listed after that term in the appropriate columns. Within each column, sub-analyses indicate specific and significantly different ideas, followed by the bibliographic number of the reference which contains that idea. These refer to the numbered list of references at the end of this section. The tables may be read horizontally to summarize the variety of ideas contained in several definitions of a given term; or, the tables may be read vertically to summarize the various points within one category. Finally, the frequency with which any point is mentioned may be obtained by counting the number of references listed after that point, and the specific writers who have mentioned each point may be identified in terms of the list of references.

In addition to the tables, the definitions are summarized in the discussion of each group of terms, the major areas of agreement and disagreement are noted, and the important issues and problems raised by each group of terms are discussed.

General Terms

General terms refer to the broad area of mental retardation. Those terms used most frequently are: (1) feeble-minded; (2) mentally defective; (3) mentally retarded. Each of these terms will be discussed separately, and a summary of the content analysis of these terms is presented in Table 1.

Mentally Retarded

Etiology: Many writers state that mental retardation is a condition of constitutional disturbance which may be inherited or acquired. Others limit the term mental retardation to individuals who have no organic disorder but whose lowered intellectual functioning may be accounted for by environmental factors.

Intelligence: A majority of the writers state that mental retardation is a condition of below-normal intelligence or inferior mental functioning. A few writers place the maximum I.Q. at 90; others consider 75 the upper limit.

Education: There is general agreement that the mentally retarded are unable to master the traditional academic curriculum but may be amenable to certain types of training and special programs of instruction.

Maturation and social competence: A number of writers state that the mentally retarded mature at an arrested rate of development. Opinions vary about social competence as a criterion for differentiating mental retardation from mental effectiveness. Some writers reserve the term mental retardation for those individuals who are, or may become, socially competent, while the term mental defectiveness refers to those who are, and will remain, socially incompetent. Other writers include both socially competent and socially incompetent persons in defining mental retardation.

Psychological: A majority of writers state that mentally retarded individuals characteristically are subject to personality disturbances and emotional difficulties. Other writers suggest that personality variations among the mentally retarded are similar to those found among normals.

Physical and environmental: Several writers maintain that, in some instances, mental retardation is attributable to inferior environmental conditions. A few writers note that secondary physical and speech handicaps frequently accompany retardation.

Prognosis: Some retarded individuals may become socially competent.

Feeble-minded

Etiology: There is general agreement that feeble-mindedness signifies arrested or incomplete cerebral development. This physiological condition may be inherited or acquired. There are, of course, instances in which etiology may involve both inherited and acquired factors, and instances in which the cause is unknown. A major aspect of many definitions, however, is that a constitutional disturbance is evident from birth or early age.

Intelligence: Feeble-minded are a heterogeneous group of individuals with one principal common factor: below-normal intelligence. A few writers propose a statistical definition, such as assigning the lowest three per cent of the population to the feeble-minded category. A few writers state that all I.Q. scores below 70 fall within a feeble-minded classification, however, most definitions merely state that the feeble-minded are of lowered intellectual ability.

Education: Writers agree that feeble-minded individuals are not amenable to traditional classroom instruction and do not profit from academic education. Specialized education and training may be feasible, and feeble-minded individuals may acquire some occupational skills or desirable social habits in an atmosphere suited to their special needs. The basic condition can not be altered, but education and training may serve to increase the social adequacy of the feeble-minded person.

Maturation and social competence: General development proceeds at an arrested rate or is halted completely at an early age. Because of generally retarded maturation, and the lack of intellectual ability, the feeble-minded individual usually is considered socially incompetent. Specifically, this incompetence involves an inability to manage successfully personal affairs or to be economically productive. Because of social incompetence, supervision and protection are necessary. A few authors suggest that a feeble-minded person may be trained sufficiently to take a place in society or be self-supporting if environmental conditions are favorable.

Psychological: Severe personality disturbances may accompany feeble-mindedness.

Physical and environmental: Many feeble-minded persons are physically inferior, and motor, speech, or sensory defects are characteristically present.

Prognosis: Essentially, the condition is permanent and can not be reversed by either treatment or training.

Mentally Defective

Etiology: Writers generally agree that mental deficiency represents a developmental arrest or incompleteness from birth or early age. Some writers state that the deficiency is organic, physiological in basis, and is a result of certain causes, acquired, inherited, mixed, or unknown factors. Several writers note that mental defectives are an etiologically heterogeneous group of individuals who show a variety of clinical manifestations.

Intelligence: Writers agree that mental deficiency is evidenced in lowered intellectual performance, with a maximum I.Q. of 70 to 75.

Education: The mentally defective are unable to attend profitably regular academic classes. Special facilities with curricula or programs designed for persons with low intelligence may improve or partially compensate for basic intellectual limitations.

Maturation and social competence: The mental defective's maturation differs from that of normals. For example, maturation landmarks, such as walking or talking, appear later than normal. Socially incompetent, the mental defective is unable to manage his affairs, to care for his personal needs, to exercise good judgment and precaution, or to successfully compete in a normal environment. Thus, supervision is necessary.

Psychological: A majority of writers state that mental defectives are prone to emotional disorders. Several authors assert that the personality of mental defectives is not essentially different from that of intellectually normal persons, and that the defective can respond successfully to psychiatric treatment.

Physical and environmental: Writers generally agree that physical disabilities such as motor and speech handicaps are frequently present in mentally defective individuals. A large proportion of the writers are in agreement concerning the general inferiority of the environment in which mental defectives characteristically live. Typically, a defective individual comes from a socially and culturally deprived family of low socio-economic status.

Prognosis: Mental defectiveness is essentially an incurable condition. A majority of writers indicate that deficiency is permanent, notwithstanding the fact that superficially the individual may benefit from training. A few writers state that non-organic deficiency potentially is reversible.

Summary of General Terms

Etiology: The majority of writers consider mental deficiency, mental retardation, and feeble-mindedness to be an inherited or acquired disturbance evident from birth or early age.

Intelligence: All three terms refer to individuals of below-normal intelligence. An I.Q. of 75 is the upper limit generally agreed upon. A few writers suggest that mental retardation includes all persons whose I.Q. is below 90.

Education: The prevailing opinion is that feeble-minded and mentally defective persons do not respond to academic education but may respond to various forms of specialized training. Although failure to acquire academic knowledge also is considered to be characteristic of retarded persons, there is some agreement that somewhat more extensive training may be feasible for the retarded group.

Maturation and social competence: Definitions of the three terms agree that development differs significantly from that of normals. A majority of writers maintain that deficient and feeble-minded persons are socially incompetent. Mentally retarded persons, however, may, or may not, be socially competent. The factor of possible social competence is crucial to the distinction between the mentally retarded on the one hand and both feeble-minded and defective on the other.

Psychological: There is general agreement that retarded, deficient, and feeble-minded persons, in comparison to normals, are predisposed to emotional difficulties and personality disturbance. A few writers suggest that there are no significant personality differences between normals and retarded.

Physical and environmental: Sensory, motor, and speech handicaps appear in defective, retarded, and feeble-minded individuals more frequently than in intellectually normal persons. Retarded and defective individuals generally come from the lower socio-economic strata of society. No particular mention is made regarding environmental backgrounds of feeble-minded persons.

Prognosis: Included in the definition of mental deficiency and feeble-mindedness is permanence and incurability of the condition. However, some retarded individuals may become socially competent.

Differentiation Among General Terms

The content analysis reveals substantial agreement among writers in the definitions of general terms. With the exceptions noted in Table 1, there is considerable agreement in the criteria used to define these terms. Differentiation among the three major terms is somewhat tenuous, particularly for mental deficiency and feeble-mindedness. The two criteria sometimes used to differentiate mental retardation from other general terms are: (1) non-organic etiology; and (2) potential social competence. Both criteria imply possible change in the

Table 1. GENERAL TERMS

Term	Etiology	Intelligence	Education	Maturation & Social Competence	Psychological	Physical & Environmental	Prognosis
Major Term : MENTALLY RETARDED Equivalent terms; terms used synonymously : -Intellectually crippled -Feeble-minded -Mentally deficient -Borderline dull -Moderately retarded -Highest grade, includes: Borderline normals Clinically feeble-minded -Mentally handicapped, includes: Feeble-mindedness Mental deficiency Idiot Imbecile Moron -Non-academic pupil -Mental subnormality -Culturally relative -Intellectual subnormality	a)constitutional disturbance, may be congenital or acquired; from birth or early age (4,5,69 139,159,169 188) b)absence of organic deficit (100)	a)below normal intelligence,e.g. statistical concept; inferior mental functioning (4, 75,87,100, 150,151,168, 169,179,182) b)IQ below 90 (159,162,179) c)IQ below 75 (75,78,159, 174)	a)amenable to education (75) b)may be amenable to training or therapy (76,188) c)unable to attend regular schools (121) d)less than average ability to retain curriculum knowledge (4,75,159, 168,169,182)	a)arrested rate of development (4,75,95) b)maximum opportunity for development is ages 3,4,5 (99) c)social competence possible, e.g. vocational competence (50,75,78, 151,179,188) d)socially incompetent, e.g. lack of adaptive social behavior (4,50,159, 181)	a)high incidence personality disturbance (4,35,76, 109,139,150, 169) b personality characteristics and problems similar to normals (182)	a)may have inferior environments,e.g. culturally deprived (4,35,76, 151,162) b)language defects,e.g. speech handicaps (95,159)	

Table 1. GENERAL TERMS (cont.)

Term	Etiology	Intelligence	Education	Maturation & Social Competence	Psychological	Physical & Environmental	Prognosis
Major Term : FEEBLE-MINDED Equivalent terms; terms used synonymously : -Mentally deficient -Intellectually crippled -Intellectual inadequacy -Retarded -Mental backwardness -Mildly subnormal -Culturally relative term: Relative feeble minded Absolute feeble minded -Severely subnormal, includes: Moderate subnormality, mild subnormality	a)arrested or incomplete cerebral development (32,38,41,42, 46,47,50,52, 106,138) b)constitutional disturbance; physiological condition from birth or early age (22,32,41, 46,47,50,114, 137,138,140, 146) c)may be inherited or acquired (41,114)	A heterogeneous group of individuals of: a)below normal or incomplete intelligence; maximum MA 12 (22,38,42,52, 54,81,86,93,97, 102,113,114,117, 136,137,140,143, 146,179,183) b)statistical concept,e.g. lower range of intelligence, e.g. lowest 3% of population (86,137) c)IQ below 60 or 70 (13,22,86,179)	a)incapable attending regular schools, mastering academic curriculum (22,38,42,86, 93,100,102, 140,183) b)may respond to specialized education; training may temporarily ameliorate condition (42,43,48,54, 137)	a)arrested rate or complete stop of general development (22,42,50,136, 146) b)potential or actual social incompetence, e.g. unable to become self-sufficient; unable to show good judgment, manage own affairs; require protection and supervision (22,38,42,43, 46,54,67,86, 100,117,138, 146,179,183) c)under favorable condition may earn living (146) d)may function in society (93)	a)may have personality disturbance e.g. schizophrenia, psychopathic (22,50, 103)	a)physically inferior;delayed motor accomplishments (137)	a)essentially incurable condition (42,43,44, 52,54,86, 100,136, 138,179)

Note: British use term feeble-minded differently. British feeble-minded corresponds to American moron group.

Table 1. GENERAL TERMS (cont)

Term	Etiology	Intelligence	Education	Maturation & Social Competence	Psychological	Physical & Environmental	Prognosis
Major Term : MENTAL DEFECTIVE Equivalent terms; terms used synonymously : -Mental deficiency -Feeble-minded -Oligophrenia -Mental retardation -Mental subnormality -Educable, includes: Sub-cultural Pathological -Amentia	a)arrested or incomplete development existing from birth or early age (usually before 18) (3,16,22,40, 45,49,54,66,69, 75,88,89,105, 109,111,114,150, 171,172,175,177, 180,183,188)	a)retarded intellectual performance (4,11,16,22, 49,56,64,69, 75,92,105, 111,117,135, 143,144,150, 170,171,172, 175,177,179, 180,186,188)	a)unable to attend regular academic schools (3,56,69,75, 100,105,142, 171,172,175)	a)development differs from normals (16,66,75,95, 105,111,133,171, 172,173)	a)may have personality disturbances, e.g. schizophrenia, mental disorders (53,69,85,90, 134,142,152, 171,172,175, 188)	a)may be physically inferior, e.g. inadequate motor proficiency; physical stigmata (55,69,75, 84,156,171, 172,173, 175)	a)essentially an incurable condition (11,12,15,39, 40,42,45,49,54, 69,75,105,109, 150,171,172, 175,177,179,188)
	b)deficiency in brain structure; organic abnormality or lesion (3,16,69, 75,105,111,112, 135,151,180)	b)maximum IQ 70 or 75 (8,11,13,95, 105,126,137, 152,153,170, 171,172,173, 174,175,179, 182)	b)school progress poor (56,173)	b)social incompetence, e.g. unable to adjust to environment; unable to learn common acts; potentially dangerous to self or others (11,40,47,49,53, 54,55,66,67,69, 75,92,105,109, 111,117,142,144, 150,152,171,172, 173,175,177,179, 180,188)	b)subject to same emotional ills as normals (11)	b)may be verbally inferior, e.g. speech defects; inadequate speech (55, 69,95,171, 172,175)	b)reversibility or improvement may be possible if no organic pathology (30,135,172)
	c)heterogeneous group of conditions with different clinical manifestations, e.g. grade variations, which may be: inherited, acquired, mixed or unknown (22, 39,40,42,45,62, 63,66,69,77,88, 89,93,105,112, 135,170,171,172, 175,177,180,181, 183,185,186)	c)IQ may change, e.g. improved environment (119)	c)treatment and training in special facilities may superficially or temporarily compensate for limitations (40,105,150, 171,172)	c)require supervision and support (may be competent) (11,53,64,66, 69,75,105,144, 150,152,171,172, 173,175,181,188)	c)responds to psychiatric treatment(12)	c)may come from inferior environments, e.g. culturally deprived; poverty (35,69,111, 112,142,171, 172,173,175)	
	additions: schizophrenia, emotional illness (170)	d)may or may not be feeble-minded (75,84,144)		d)if not feeble-minded, may be socially adequate (48,105,117,144 179)			

fundamental condition underlying mentally retarded functioning.

Problems and Issues

Place of I.Q. in diagnosis and terminology: The observation that some people function intellectually at a below-normal level is the central fact defining the area of mental retardation. However, in the literature, there is much dissatisfaction with the measures of intelligence. For example, some writers emphasize the cultural biases of intelligence tests; other writers emphasize the fact that factors other than intellectual ability, such as emotional adjustment, influence intelligence test performance. In addition to dissatisfaction with measures of intelligence, many writers have pointed out that factors other than I.Q., such as self-help abilities, temperamental stability, physical status, and environmental pressure determine, to a large extent, the therapeutic, educational, or legal action to be taken. Finally, a number of writers in the recent literature have argued that the intelligence test was designed to predict school performance, and though the I.Q. may be adequate for that purpose, the treatment, training, and education of the mentally retarded must consider broader areas of non-academic functioning in the community. These writers argue that for this wider range of social behavior, the I.Q. is not an adequate predictive measure.

The criticisms of intelligence tests and the arguments against the use of an I.Q. as the sole criterion for a diagnosis seem to have a good deal of face validity. However, for current practical purposes, arguments against intelligence tests lead to a difficult, if not untenable, position. Intellectual functioning that is lower than normal appears to be the only factor generally agreed upon as characteristic of the group of persons labeled mentally retarded. Almost everything else about this group involves widespread individual differences.

Perhaps it is too obvious to mention, but the fact is that intelligence tests currently available are the only reliable means of measuring intelligence. If these tests are discarded, almost the only reliable measure available, albeit a faulty and limited one, would be eliminated as one basis for defining mental retardation. Other factors, such as social competence, currently can be measured only with great difficulty, grossness, and unreliability. Therefore, assuming that the general area of mental retardation represents a meaningful and socially useful categorization, elimination of intelligence tests and I.Q. in diagnosis probably would leave the practical field in chaos.

Recognizing the faults and limits of intelligence tests, other considerations support the appropriate use of these tests in the diagnosis of mental retardation. Although intelligence tests indeed are culturally biased, there is not available at the present time any well-standardized and practically useful culture-free test of intelligence that has been rigorously validated against predictions of broader social competence. Perhaps this reflects the fact that the development of such a test is impossible, that a person does not function independently of the culture of which he is a member. "Intelligence," as estimated by some observation of behavior, recessarily deals with functioning that is influenced by particular cultural limits, demands, and opportunities. Furthermore, measures of other dimensions of functioning are difficult, frequently impractical, and sometimes impossible. This suggests an important area of activity for the theoretician and researcher concerned with the development of such measures, but it also imposes limits on current practice dependent upon suitable and realistic techniques of measurement. Finally, the relationship between I.Q. and broader social functioning undoubtedly is lower than the correlation between I.Q. and school achievement; however, I.Q. and social achievement probably are not independent of each other. On the basis of very limited evidence, which will be reviewed in the discussion of follow-up studies, it does not seem unreasonable to hypothesize a low, but positive, correlation between I.Q. and various aspects of broader social competence. In a culture largely dependent upon symbolic activity, it would not be surprising to find that some estimate of symbolic ability, such as the I.Q., is positively related to success in the culture.

Notwithstanding the possible usefulness of the concept of intelligence in a broad theoretical sense, a practical problem involves the fact that an I.Q. is a function of the test used to measure intelligence and the intercorrelations among the tests are not perfect. In fact, the correlations between some tests are relatively low. Thus, I.Q. means different things, depending in part on the test used. At the present time, there is not consistent empirical evidence in support of the superiority of a particular test for the purpose of diagnosing mental retardation. However, the Stanford-Binet has been widely used and has relatively greater precision at the lower levels of intelligence in comparison to a test such as the Wechsler Intelligence Scale for Children. This would tend to support utilization of the Binet, or some standard equivalent, as one operational basis for defining terms. But the specification of one test for defining intelligence undoubtedly would be inadequate; a full description of intellectual functioning would involve a battery of tests designed to measure diverse aspects of intellectual functioning. Thus, a definition might involve one primary measure or I.Q. plus a standard set of supplementary measures. Whatever these measures are, there is obvious need for some specification and agreement concerning the operations used to define intelligence.

In summary, many writers assert that the I.Q. is not enough for diagnosis of mental retardation, and there is little disagreement with this general position.

However, to minimize the importance and usefulness of intelligence tests probably would do a disservice to the field. Rather than argue about the value of intelligence tests and reiterate the fact that I.Q. does not completely describe a person, it would seem more useful in the long run to focus research on developing adequate measures of factors rather than intelligence. For practical purposes at the present time, the limits and faults of intelligence tests must be recognized and I.Q. used as only one important factor in diagnosis and terminology. There would be no reasonable gain from minimizing the one variable in definitions that is currently measurable and related to at least some limited aspect of future functioning. Certainly I. Q. is not enough; but the development of more adequate and comprehensive measures of functioning will be more valuable than the construction of new terminologies involving words without measurable reference.

Remediable vs. irremediable: Some writers suggest that one general term, such as mental deficiency, be used to denote individuals whose defectiveness is irremediable, despite superficial changes which may result from education or training. For these writers, a second general term, such as mental retardation, is reserved for individuals who may fundamentally improve as a result of various forms of therapy, education, and training. The mentally retarded would include individuals without organic defects whose lowered intellectual functioning may be a result of factors such as environmental deprivation or emotional problems.

One difficulty with this proposal is the accuracy of diagnosis required to discriminate validly between remediable and irremediable cases. A central problem in mental retardation is the lack of reliable, valid, and precise measurement techniques; for a differential diagnosis of remediable vs. irremediable, the problem of inadequate measurement is crucial. For example, if the term mental retardation denotes remediable cases in which environmental or emotional factors are the primary causes of lowered functioning, the precise measurement of such factors would be a sine qua non of accurate diagnosis. However, current measures of emotional disturbance and environmental deprivation are, at best, gross and relatively unreliable. Furthermore, current knowledge about prognosis and etiology is limited, particularly in those cases involving multiple, interacting causal factors. There is little question about the prognosis for persons with severe cerebral defects, but these involve only a small proportion of the mentally retarded. For a larger proportion of the mentally retarded, particularly those functioning at a higher intellectual level, knowledge of etiology and prognosis hardly seems sufficient at the present time to warrant a clear-cut differentiation between remediable and irremediable.

Although the danger of making an invalid "irremediable" diagnosis has been stressed in the literature, the danger of not making a valid "irremediable" diagnosis has received little attention. Nevertheless, such dangers are real and important. Despite the fact that a child's intellectual functioning can not be improved, other aspects of functioning, such as self-help abilities and perhaps even simple vocational skills, may be of great importance for an individual's potential adjustment. Failure to make a valid "irremediable" diagnosis conceivably may lead to inappropriate action, such as trying to increase the intellectual and vocational skills of a person for whom an appropriate acceptance of permanent deficit would lead to more helpful and realistic attention to self-help skills and other non-intellectual aspects of functioning. Obviously, for persons whose intellectual retardation is permanent, the most effective therapeutic and educational action must be planned within the limits of a valid estimate of potential functioning. Inappropriate emphasis of remediability can lead to unrealistic expectations and ineffectual action.

In summary, the discrimination, both in diagnosis and in terminology, between remediable and irremediable retardation is an important and worthwhile goal. Any system of terminology must eventually make this kind of distinction if the terminology is to serve as an effective guide to action. Perhaps the remediable-irremediable dichotomy might be refined to deal with degrees of potential improvement or remediability. But some indication of prognosis inevitably is an important concern. At the present time, however, because of inadequate measures and limited knowledge about etiology and prognosis, the precise diagnostic distinction between remediable and irremediable seems to be a somewhat unrealistic basis for practically useful terminology. Perhaps a more realistic view is the recognition that developing accurate diagnostic procedures for making such a distinction would be an invaluable contribution, and there would seem to be little or no gain achieved by substituting word systems for research designed to solve the diagnostic problem.

Heterogeneity vs. homogeneity: The general area of mental retardation includes persons with a variety of etiologies, different developmental histories, psychological characteristics, and social competencies. Thus, it is argued in the literature, any single term for the entire area of mental retardation implies a homogeneity which actually covers a wide range of heterogeneous persons. On the other hand, there appear to be some positive intercorrelations among various areas of functioning. The observation that the intellectually retarded tend to be physically weaker and emotionally less stable than normals would argue for some degree of functional homogeneity. However, many of these intercorrelations, though positive, tend to be low and perhaps unreliable. In fact, there is little consistent information about interrelationships among various aspects of functioning, most statements of homogeneity being based on clinical observations without substantial data to support conclusions about either homogeneity or heterogeneity.

Any system of terminology is bound to abstract from the concrete events to which the terms refer; therefore, any term will imply a homogeneity which at a lower level of abstraction, closer to the observation of actual events, will include heterogeneous phenomena. One ultimate goal of terminology is to provide a system of generalizations which provides the most useful level of abstracted homogeneity; that is, symbols which make a significant difference for action. But current evidence about mental retardation does not permit a confident decision about the level of abstraction at which terminology is most useful. Granted that people are homogeneous in some ways and heterogeneous in others, labeling a group of persons on the basis of whatever homogeneity may exist depends upon knowledge of the concrete similarities and differences, and the pragmatic value of emphasizing certain similarities and neglecting other individual differences. Historically, the mentally retarded have been clustered together because of some homogeneity of intellectual functioning. But in the more recent literature, writers have proposed that this kind of intellectual homogeneity is less important than the heterogeneity of other functional aspects of the mentally retarded. Nevertheless, any single term to cover the area will imply at least some homogeneity and will necessarily be based on an abstraction of some commonality from individuals who, in other ways, are different from each other. Therefore, if it is useful to cluster together individuals whose intellectual functioning is below normal, the terminology must be based on the recognition at least of this homogeneity. In addition, the system of terminology must also provide some means of recognizing and making explicit those aspects of heterogeneity within the group which reflect actual individual differences useful to account for in any particular situation.

In summary, the problem of heterogeneity vs. homogeneity reflects the fact that people have been grouped on the basis of certain characteristics, specifically lower-than-normal intellectual functioning. Within this group, however, there are many individual differences important for various purposes. Thus, a system of terminology must be based on the limited homogeneity of the mentally retarded and must also provide some means of recognizing individual differences within the group.

Etiological Terms

In describing an individual etiologically, the basis for classification is the cause of deficiency. Results of the content analysis of etiological terms are summarized in Table 2. A number of categories are suggested in the literature, and there is some difference of opinion about syndromes included in the various groupings. Generally, however, the following divisions are recognized:

Endogenous or primary: Endogenous defectives are individuals whose defect is familial; that is, others in the family exhibit the same kind of retardation. A few writers, such as Doll, include in the endogenous category those relatively rare cases in which there is no familial history of retardation but some genetically-determined anomaly, such as oxycephalism, is the cause of intellectual deficit.

Exogenous or secondary: Exogenous defectives are individuals whose intellectual deficit is acquired rather than familial. Causal factors typically included are: (1) unknown etiologies associated with specific clinical types, such as mongoloidism; (2) birth injuries; (3) infections, including maternal illnesses during pregnancy as well as illnesses of the retarded individual, such as encephalitis; (4) physical deprivation, such as pituitary deficiencies; (5) environmental deprivation; (6) severe sensory handicap; (7) psychological disturbance.

Mixed: This category includes cases in which both endogenous and exogenous causal factors operate to produce defective functioning.

Unknown: Individuals are considered to be of unknown etiology when no basis of the deficit can be ascertained.

Brain-crippled: Individuals with a history of trauma or disease in infancy and who show neuropathological signs are termed brain-injured or brain-crippled. Comprehensive discussion of clinical types, or detailed analysis of the medical basis for any particular clinical syndrome, is not within the scope of this paper.

Content Analysis of Etiological Terms

Endogenous

Although the term endogenous appears most frequently in the literature, equivalent terms suggested include garden variety, primary, familial, not organic, hereditary, functionally related, and cultural-familial.

Etiology: Endogenous individuals are those persons whose family history includes records of defectiveness. The prevailing opinion is that endogenous individuals reflect the hereditary transmission of psychobiological insufficiency. These individuals reproduce in kind and the consequent inferiority can not be attributed to disease, birth trauma, pre- or post-natal factors.

Intelligence: Although all grades or degrees of intelligence may be represented, the endogenous most frequently include dullards, morons, or high-grade imbeciles. Most writers suggest a maximum I.Q. of 70 to 75, with a M.A. at maturity ranging from 8 to 12. One view maintains that I.Q. decreases with age; another view asserts that endogenous individuals gain in M.A. with increasing chronological age, and therefore I.Q. remains relatively constant. Intellectual performance on various tests has been compared to that of exogenous individuals with varying results. Some writers report less verbal fluency among the endogenous; some report equivalent test performances for endogenous and exogenous; others report that the endogenous are superior to exogenous on particular tests.

Education: There is some agreement that endogenous are capable of school achievement until about the middle of the elementary school curriculum. Studies comparing the school achievement of endogenous with exogenous disagree about the relative performance of the two groups.

Maturation and social competence: Some endogenous individuals are believed to be capable of social adjustment provided sufficient opportunities, supervision, and training are provided. A few writers state that endogenous are superior to exogenous in social competence, and a contrary opinion maintains that exogenous are superior to endogenous. Some research suggests that there is a difference between the two groups on the Vineland Social Maturity Scale, the endogenous being superior in certain categories such as self-direction. The endogenous individual matures at an abnormal rate and maturation stops at an earlier age than normal.

Psychological: There is some disagreement about personality characteristics of the endogenous group. One view asserts that personality of the endogenous is characterized by relative evenness of functioning. A larger proportion of the writers maintain that endogenous individuals exhibit personality defects such as abnormal instability or aggressiveness.

Physical and environmental: Although endogenous persons tend to be somewhat weaker organisms than normals, physical stigmata and extreme sensory or motor handicaps are not characteristic of the endogenous group. The non-institutionalized endogenous person typically lives in a culturally deprived environment, with a family of low socio-economic status.

Exogenous

Exogenous is the second major term in etiological classification; however, terms similarly used are secondary, non-familial, acquired, and in some instances, to refer to specific subgroups, organic and culturally deprived. Although characteristics of a brain-injured group have been charted separately, an examination of the criteria indicates that brain-injured represent one subgroup within the exogenous classification. Presumably, brain-injured individuals, according to some writers, are a unique and separate etiological group. However, the precise functional differences between brain-injured and the total exogenous group are not clearly differentiated.

Etiology: In contrast to the endogenous individual, the exogenous defective does not have a family history of deficiency. The retarded functioning is a consequence of acquired factors, in some cases involving organic deficit due to injury or illness, and in other cases involving a learning deficit as a consequence of severe social deprivation or psychological disturbance.

Intelligence: Although there is a wide range of intellectual performance in the exogenous group, in general the exogenous tend to function at the lowest levels of intelligence. Thus, the majority of persons functioning at the idiot and lower imbecile levels are exogenous. The level of intellectual functioning, of course, depends in part upon the particular etiology considered within the exogenous group. A person with severe cortical damage might reasonably be expected to function differently than a person whose retardation is a result of moderate cultural deprivation. Some writers state that in a constant environment, there tends to be a decrease of M.A., and therefore I.Q., in the exogenous group.

Education: There is lack of agreement regarding educability. One view states that some exogenous persons are superior to endogenous in school performance;

another view states that successful schooling is unlikely, that training may be feasible in some cases. These views undoubtedly represent an emphasis on different specific etiologies within the exogenous classification. Presumably, a culturally deprived person may benefit from training and even education, while a low-grade idiot, with severe organic pathology, would show no gains.

Maturation and social competence: There is some agreement that the exogenous individual tends to be inferior to the endogenous in terms of social competence; but there is disagreement about specific similarities and differences between the two groups. Perhaps this disagreement is a function of possible etiologies clustered within the exogenous group.

Psychological: A large number of writers agree that exogenous individuals tend to exhibit socially unacceptable behavior patterns, such as uncontrollable temper tantrums or severe withdrawal.

Physical and environmental: Exogenous individuals frequently have physical and sensory handicaps, and environmental improvement does not materially alter the condition. Socio-economic background of the exogenous group is generally higher than that of the endogenous. However, no single socio-economic class is particularly associated with exogenous etiology.

Problems and Issues

Heredity vs. environment: Although textbooks about mental retardation frequently list etiological factors as if they were independent causes of retardation, a review of the literature suggests that most cases of retardation are multi-determined and that in any single case, several determinants may interact. Consider, for example, an endogenous mentally retarded child with one or both parents retarded. It is likely that the child's environmental stimulation is relatively restricted, particularly during the early years of development when

Table 2. ETIOLOGICAL TERMS

Term	Etiology	Intelligence	Education	Maturation & Social Competence	Psychological	Physical & Environmental	Prognosis
Major Term : ENDOGENOUS Equivalent terms; terms used synonymously : -Primary -Familial -Not organic -Hereditary -Functionally retarded -Cultural-familial -Sub-cultural	a)Familial history, e.g others in family affected; absence brain damage history; absence neurological signs (41,42 49,60,69,105, 112,120,154, 165,166,170, 171,172,177)	a)generally upper levels of retarded intelligence, e.g. moron, high-grade imbecile (1,47,49,105, 171,172)	a)schooling possible, e.g 4th to 5th grade attainment (40,49 144)	a)possible social competence and adjustment, e.g. responds to training, therapy (1,25,40,49)	a)behavior characterized by relative evenness of functioning (69,170)	a)may respond to environmental stimulation or therapy, e.g. IQ gains (L,23,97,165)	
Note: Typically the tendency is to place all functionally retarded individuals who do not have marked structural defects into endogenous group.	b)hereditary transmission of psychobiological insufficiency, e.g. defective germ plasm (47,105,114, 144,171,172, 177)	b)IQ below 70; MA 11 or 12 (144)	b)academic achievement endogenous same as exogenous and brain injured (14)	b)familial superior to non-familial in social competence, occupation (96,122)	b)deficiencies of personality, e.g. instability (49,90,171, 172)	b)generally comes from inferior socio-economic backgrounds, e.g. pauperism (42,112,141)	
		c)scores on Arthur Point scale same as exogenous (60)	c)inferior to exogenous in school performance (96)	c)familial or endogenous inferior to non-familial or exogenous in social development and locomotion (141)		c)generally organically sound individuals who do not differ physically from normals, e.g. marked motor, sensory handicaps (1,25,49, 112,144)	
		d)Formboard performance exceeds exogenous (28)		d)performance on Vineland differs from exogenous and unexplained, e.g. high self-direction (25)			
		e)less word fluency than exogenous (154)		e)abnormally slow maturation which comes to a halt at a lower level than normals (171,172)			
		f)MA gains per year with increasing CA (97)					
		g)IQ deteriorates with increasing age (171)					
		h)deficient and not defective (47)					

Table 2. ETIOLOGICAL TERMS (cont)

(2)

Term	Etiology	Intelligence	Education	Maturation & Social Competence	Psychological	Physical & Environmental	Prognosis
Major Term : EXOGENOUS Equivalent terms; terms used synonymously : -Secondary -Organic -Non-familial -Acquired -Structurally retarded -Pathological	a)absence of familial incidence of deficiency; probability of brain damage; history of trauma; history of disease; presence of organic and physical stigmata; neurological signs (1,35,41,42, 49,50,60,69, 71,105,112, 114,120,154, 165,166,171, 172,177) b)pathological deviation from normal development including rare hereditary types; damage may be local or widespread (1,40,49,105, 144,171,172)	a)includes varying ranges of intelligence (141,171,172) b)generally low grades of intelligence, e.g. idiot, imbecile (49,144) c)greater word fluency than endogenous (154) d)Arthur point scale scores same as endogenous (60) e)IQ losses in constant environment (171) f)MA losses per year with increasing CA (97) g)mentally deficient and defective (47)	a)classical schooling not likely; require special training (49,141) b)superior to endogenous in school (96)	a)generally no difference between exogenous and endogenous on Vineland Maturity Scale (except in telling time) (29) b)exogenous superior to endogenous in locomotion and social development(96,141) c)tenuous social competence, e.g. inferior to endogenous; slow development; not likely to attain independence (25,40,116,122, 141) d)performance on Vineland differs from endogenous; unexplained (25)	a)socially unacceptable behavior, e.g. erratic behavior; personality defects (49,69,166, 170,171,172)	a)environmental improvement does not affect functioning, e.g. IQ gains (97,171) b)generally higher socio-economic backgrounds than endogenous (141) c)visual and motor handicaps (Vineland scale) (25,49)	

Table 2. ETIOLOGICAL TERMS (cont)

Term	Etiology	Intelligence	Education	Maturation & Social Competence	Psychological	Physical & Environmental	Prognosis
Major Term : BRAIN-INJURED Equivalent terms; terms used synonymously : -Strauss syndrome -Brain-crippled -"No such term"	a)history of trauma or disease in infancy; neuropathological signs; absence of familial deficiency (108,144,165)	a)may or may not be mentally retarded (164) b.intellectual performance lacks coherence and integration (178)	a)fails to respond to ordinary classroom activities (108,165) b)academic achievement of brain-injured same as endogenous (14)	a)socially unacceptable behavior e.g. perserverative; erratic; uncontrolled (25,108,144,164, 165,170,178)		a)general impairment, e.g. inferior motor performance; sensory impairment (108,144,165)	
Other Intellectual Groupings; Self-Explanatory:							
Major Term : MIXED FORM Inherited and acquired; endogenous and exogenous; familial and non-familial							
Major Terms : UNKNOWN UNEXPLAINED				a)Vineland performance higher than endogenous in general, locomotion, and communication areas (25) b)inferior to endogenous in self-help, self-direction, and occupation (25)		a)communication, visual, and motor skills similar to endogenous on Vineland scale (25)	

environmental or social stimulation depends largely on other members of the family. Later in his development, as a consequence of repeated failures in intellectual tasks, he may experience emotional disturbances which further interfere with his intellectual functioning. In addition, he may be more prone than the normal child to accidents or illnesses which lead to added environmental restrictions, emotional disabilities, and reduced intellectual functioning. Thus, an etiology stemming originally from inherited defects may be complicated by the interaction of emotional and environmental factors as the child develops.

Determining the specific effects of each antecedent factor in a child's development is an extraordinarily difficult task, and any instance of mental retardation may have many causal antecedents. In view of the variety of determinants which may operate in a single case, and the likelihood of interaction among these determinants, the classification of a person as either endogenous or exogenous seems to be an artificial, if convenient, distortion of reality. Adding the category "mixed," of course, loses the meaning of the original distinction between etiological groupings, although it may be more accurate in a large number of cases simply to add the word "mixed" before any etiological designation. The suggestion that a classification should be made on the basis of "major" cause fails to solve the problem of deciding which of many interacting causes is "major" for what purpose.

Perhaps the endogenous-exogenous classification is a vestige of the nature-nurture controversy, which posed the problem of deciding whether a given behavior is due to heredity or environment. But this distinction, of course, is meaningless; for any behavior or characteristic of a person is a consequence of the interaction of both inherited and environmental factors. The endogenous-exogenous dichotomy similarly poses the problem of deciding whether an instance of mental retardation is a result of nature or nurture. As in other areas of medical and social science, it may be useful to recognize the artificiality and scientific uselessness of this distinction. Rather than classify persons according to inherited or environmental causality, it is probably more profitable to specify the various determinants which operate in any single case.

Usefulness of broad etiological classification: Knowledge of the causes of mental retardation undoubtedly is of great importance for certain purposes. A rational plan of therapeutic action, or an administrative decision based on some estimate of prognosis certainly should involve information about etiology. However, the relationship between etiology and functioning is amorphous, and there is little reliable evidence about the differential effects of various training and educational procedures as related to the endogenous-exogenous classification. Except for numerous suggestive, but inconclusive, case histories, the research literature does not provide substantial grounds for establishing on the basis of broad etiological categories a concrete program of training or education. Therefore, at the present time, gross distinctions in etiological terminology probably are not of great use for educational purposes. This does not minimize the potential importance of more specific etiological information as a basis for psychotherapeutic or educational action. Indeed, research about the interrelationships among etiologies, aspects of functioning, educational practices, and prognosis unquestionably will do much to clarify concepts and practices in this area.

Classification by Degree

One of the major dimensions of classification is level of retardation. Although classification by degree is criticized by many writers, certain degrees or levels of below-normal functioning are described in the literature. The grades recognized are below-normal but not defective, and three degrees of defectiveness. This discussion follows the literature in presenting distinct levels, but it must be noted that these levels actually overlap and the distinctions between levels are not clear and precise. One level merges into another in the sense that individuals at the borderlines between levels may be classified at one level or another depending upon local differences in diagnostic custom.

Within levels of degree of retardation, the groupings are low, medium, and high. These further divisions are not explicitly defined and are considered to be largely administrative.

Idiot

The lowest grade is most frequently termed idiot. Synonyms or substitute terms have been suggested, not to redefine the grade, but rather to avoid a word of unpleasant connotation. Terms used to replace idiot include: "severe," absolute feeble-mindedness, severely subnormal, severe low grade. Severe low grade and absolute feeble-mindedness include both idiot and imbecile. Custodial is used as a synonym for the term idiot, but is also used independently to indicate the restricted functional capacity of persons at the idiot level. Despite much criticism of the word idiot, this term is used most frequently in designating the lowest level of intellectual functioning.

Etiology: Although most writers state that the idiot may be either familial or non-familial, there is general agreement that the majority of idiots are the results of developmental failures, metabolic disorders, birth trauma, and other "acquired" causes. Most writers state that the idiot level is comprised of individuals whose family history does not include feeble-mindedness; however, some writers disagree with this opinion.

Intelligence: There is general agreement that the idiot has an M.A. below two or three and an I.Q. below 20 or 25. A few authors place the maximum I.Q. at 30 and state that the maximum M.A. potential is four.

Education: The majority of writers assert that the idiot is incapable of mastering even the most elementary academic curriculum. A few writers state that training is not feasible, although some writers state that the idiot under optimal conditions may respond to extensive training. The prevailing and dominant opinion, however, is that the idiot level is incapable of benefiting from any form of instruction.

Maturation and social competence: Marked developmental deviations are characteristic of the idiot. Walking, talking, and other maturational behaviors occur late, if at all, and over-all development is arrested at about ages six to eight. The idiot does not mature socially, and writers are in complete agreement that the idiot is socially incompetent. With a maximum social age below four, the idiot can not manage his personal behavior sufficiently to protect himself from danger or to care for his personal needs. As a consequence of his social incompetence, the idiot must be closely supervised and controlled in a custodial manner.

Psychological: Writers note a wide range of individual differences in behavior, from hyperactive to hypoactive, aggressive to withdrawn. However, some writers state that extremes of behavior are characteristic of the idiot.

Physical and environmental: Physical defects frequently accompany the condition of idiocy. The idiot is marked by physical stigmata, severe sensory and motor defects, and severely limited speech.

Prognosis: A few writers state that the condition is permanent.

Imbecile

The second major level of retardation is the imbecile or severely retarded. Synonyms and terms suggested to replace imbecile include: moderately subnormal, "moderate," severely mentally retarded, trainable, "severe," severely retarded, and absolute feeble-mindedness. The last two designations include both idiot and imbecile levels.

Etiology: The cause of imbecility, like idiocy, necessarily differs according to the individual case. Generally, the condition of imbecility is believed to be pathological in origin or a result of developmental failure.

Intelligence: Some difference of opinion exists concerning the intellectual performance of imbeciles. A majority of writers propose an I.Q. range between 20 and 50. The maximum of 50, however, has been extended to 60, and in some instances to as high as 70. M.A. ranges from approximately three to eight.

Education: The great majority of writers agree that the imbecile is incapable of profiting from academic instruction. However, the imbecile may respond to extensive training. As a result of training, the imbecile may acquire rudimentary skills such as limited reading and writing.

Maturation and social competence: Developmental history of the imbecile reveals marked deviation from normal. The imbecile is able to acquire some social competency, such as the ability to care for bodily needs and to protect himself from danger. However, despite the acquisition of these simple skills, writers are in accord concerning the necessity of supervision and control. The imbecile may acquire rudimentary occupational skills but can not exist independently in a competitive society. Custody is recommended.

Psychological: There is no simple personality pattern. However, extremes of behavior are noted as characteristic of the imbecile.

Physical and environmental: The imbecile, somewhat less frequently than the idiot, is characterized by sensory and motor defects and deficient speech.

Prognosis: The condition may be permanent.

Moron

Moron or high-grade defective are the principal terms identifying the degree of deficiency above imbecility. Innumerable modifications of the term moron appear in the literature. One set of terms is presented as euphemisms for what is believed to be a stigmatizing label. Typical euphemistic terms include: mentally inadequate, simple, "mild," high-grade. A few terms refer to the etiology of the condition, such as cultural, familial, and subcultural. Although a wide variety of terms have been suggested, the most frequently used is moron; therefore, for purposes of this paper, moron is the term referred to in presentation of the data.

Etiology: Authors state that the majority of morons come from the lower social, economic, and environmental strata, and in most cases the etiology is familial.

Intelligence: Some difference of opinion exists about the range of I.Q. included in the moron level. Generally, however, the proposed I.Q. range is from 45 or 50 to 70, with M.A. at maturity ranging from eight to twelve.

Education: Authors agree that the moron is educable in special schools. Under favorable circumstances, the moron may reach the sixth grade, learn to read and write, and acquire apprentice skills.

Maturation and social competence: There is some difference of opinion about maturation. Some writers state that development proceeds regularly but at a slower than normal rate. Other writers state that development proceeds at an uneven rate. With supervision, the moron may be partially or completely self-supporting. However, temperament of the moron may be uneven, and as a consequence, he may be unable to exercise social judgment, meet the demands of family life, and regulate his behavior according to abstract principles.

Psychological: The moron does not characteristically present a uniform pattern of personality. Some morons may be placid, others may be temperamentally unstable; but morons typically do not exhibit the extremes of behavior characteristic of the idiot and imbecile.

Physical and environmental: Writers conclude that the moron is physically inferior to normals. Secondary defects, including sensory and motor deficiencies, may be present. One writer states that the general physical condition of morons does not differ from normals. The majority of persons at moron level come from the poorest social classes. Family histories frequently include records of deficiency, marginal or complete social failures.

Borderline

The borderline level is comprised of marginal individuals whose intellectual and social functioning is above moronity, but who fail to achieve normal status in society. The borderline group includes both exogenous and endogenous individuals whose I.Q.'s range from 70 to 85 or 90. The major area of retardation is educational. A borderline individual responds in the regular classroom until about the fourth, fifth, or sixth grade. Special classes have been suggested as the most efective way of providing instruction for this group. Supervision, according to one writer, is necessary.

Psychological functioning of borderline persons is comparable to that of normals. Physically, the borderline individual may be inferior. Discussion of the borderline group primarily involves academic and intellectual performance.

Summary of Classification by Degree

The major agreements and disagreements concerning the various grades may be summarized as follows:

Etiology: Generally, the lowest degrees, idiot and imbecile, are not familial but a result of developmental failure which may be pathological in origin. The moron level is largely familial. No particular etiology is identified with the borderline group.

Intelligence: There is some disagreement about precise cut-off points defining the I.Q. range of each level. However, most writers agree that the I.Q. of the idiot ranges from too low to record to about 20 or 25; the imbecile ranges from about 20 or 25 to 50; the moron level reaches a maximum of 70 or 75; and borderline extends from about 70 to about 85 or 90.

Education: A major difference among the various grades lies in the ability to profit from training or education. Writers agree that education is not feasible and benefit from training unlikely or minimal for either the idiot or imbecile. Morons respond to training,and high-grade morons as well as the borderline group may beneficially respond to limited academic instruction. With the exception of borderline persons, who may function in regular classrooms, idiots, imbeciles, and morons require specialized facilities.

Maturation and social competence: The idiot and imbecile are significantly different from normals with regard to rate and degree of maturation. In contrast, most writers agree that the moron may mature at an even, though slower-than-normal rate.

Social competence is not likely for the idiot or imbecile, who require custody, close supervision, and protection. However, moron and borderline persons, though not likely to be independent members of a competitive community, do not require custody. In some instances, modified supervision permits minimal social competence in a restricted or simplified environment. The moron and borderline levels, therefore, differ significantly from the lower degrees in matters of self-help, occupational abilities, and self-care.

Table 3. TERMS CONCERNED WITH LEVEL OF RETARDATION

Term	Etiology	Intelligence	Education	Maturation & Social Competence	Psychological	Physical & Environmental	Prognosis
Major Term: IDIOT Equivalent terms; terms used synonymously ; inclusive terms : -Custodial -Absolute feeble-mindedness (includes idiot and imbecile grades) -Mentally defective -Severe -Severely subnormal -Severe low grade (includes absolute, partial, and profound)	a)majority of grade are exogenous; includes e.g. clinical anomalies, developmental disorders, metabolic disorders (1,12,42) b)contradiction of (a) (181)	a)MA below 2 or 3; IQ below 20 or 25 (4,13,37,38,42,66,100,113,134,137,144,157,162,171,172,179) b)MA below 4; IQ below 30 (22,124,181,182)	a)unable to attend regular academic schools, e.g. learn to read and write with any skill (10,66,124,137,181,182) b)training generally not feasible (10,22,66) c)may with extensive training acquire kindergarten skills (124)	a)marked developmental deviation (10,66,105,171,172) b)development arrested, CA 6-8 (42,124) c)socially incompetent, e.g. unable to care for personal welfare; protect self from danger; care for personal needs (10,22,38,39,42,66,97,100,105,113,124,137,144,162,171,172,179,182,183) d)require supervision and control, e.g. custody (1,37,38,42,66,97,100,105,113,144,162,181)	a)no uniform behavior patterns, e.g. wide ranges of behavior observed; placid-excitable (12,42,66,105,171,172)	a)no speech, crude speech, inadequate understanding (10,38,42,66,124,144,171,172,182) b)feeble motor capacity, e.g. crude gait; performance; posture; may be unable to move; physical stigmata (22,42,66,98,105,124,171,172)	a)must be kept in custody or institutionalized; permanent condition (38,144)

Table 3. TERMS CONCERNED WITH LEVEL OF RETARDATION (cont)

Term	Etiology	Intelligence	Education	Maturation & Social Competence	Psychological	Physical & Environmental	Prognosis
Major Term : IMBECILE Equivalent terms; terms used synonymously : -Moderately abnormal -Moderate -Severely mentally retarded -Trainable -Severe medium low grade -Severely retarded (includes idiot and imbecile) -Absolute feeble-minded (includes idiot, imbecile -Borderline defective	a)majority developmental failures, e.g. pre-, during, or post-natal factors; metabolic failure (49,144, 171,172)	a)IQ 20-50 or 60 or 70; MA 3-8 (various ranges cited within broad area noted, e.g. MA 3-8, IQ 40-50 (4,10,13,22, 37,38,80,83, 100,113,136, 144,147,157, 162,171,172, 179,181,182)	a)with extensive training may acquire limited or rudimentary skills, e.g. occupational skills, writing, reading (105,113,133, 137,144,171, 172,182)	a)marked developmental lag, e.g. placid infancy, late walking, speech (10,66,105,171, 172)	a)extreme personality ranges, e.g. nervous instability, blindness (42,105,171, 172)	a)limited or defective speech; motor capacity; physical stigmata (10,42,85,98, 171,172)	a)permanent arrest (38)
	b)may be inherited or acquired (105	b)IQ 50-70 (133)	b)require special classes (182)	b)some social training feasible, e.g. care for bodily needs; can learn limits; guard self from danger (22,37, 38,42,85,137, 144,162,171,172, 181)			
			c)cannot profit from special schools, e.g. academic instruction, special schools (10,22,38,83, 105,113,171, 172,182)	c)socially incompetent, e.g. unable to manage self or affairs; unable to be gainfully employed; must be kept in custody; not likely to be independent (22,37,38,83, 85,93,100,144, 162,171,172,182, 183)			

Table 3. TERMS CONCERNED WITH LEVEL OF RETARDATION (cont)

Term	Etiology	Intelligence	Education	Maturation & Social Competence	Psychological	Physical & Environmental	Prognosis
Major Term : MORON Equivalent terms; terms used synonymously : -Mild high grade -Feeble-minded (British) -Social moron -Intellectual moron -Garden variety -High grade-low grade -Dull -Mentally inadequate -Mild -Moderate -Mildly subnormal -Debil -Educable -Subnormal -Subcultural -Borderline -Simple -Cultural familial -Moderate amentia -Relative feeble-mindedness -Mentally retarded -High grade defective -Mentally handicapped	a)generally a familial condition (42,105)	a)mental endowment below normal (11,58,93,162) b)IQ ranges 45 or 50 to 70 or 75; MA 8-12 (some disagreement, e.g. ranges 52-65) (4,5,10,11,13, 37,56,100,111, 113,122,130, 133,134,137, 144,157,162, 163,179,182)	a)some degree of educability, e.g. maximum academic achievement 6th grade; may acquire apprentice skills (10,42,100, 105,113,137, 144,171,172, 182) b)require special schools and training facilities (5,66,100,105, 133,171,172) c)upper range belong in regular classrooms; lag one year behind that which is normal for age (10)	a)maturity complete age 15 (42) b)may have fairly normal developmental pattern, although at a slower pace (66,105) c)lack of normal developmental pattern (171,172) d)socially incompetent, e.g. lack social judgment; unable to regulate behavior by abstract principles; unable to meet demands of ordinary family life; require supervision (10,42,52,98, 105,130,158,171, 172,175) e)under favorable conditions may function in a simple environment with moderate or close supervision, e.g. partial or total self-support (1,37,42, 52,100, 144,162)	a)personality extremes, varying stability, e.g. restless, irritable, placid (105,130, 171,172)	a)inferior vitality and metabolism (171,172) b)may have sensory, motor, and speech defects (171,172) c)majority from inferior environments, e.g. lowest social classes (67,111,112, 181,185) d)generally of good physical condition (42)	

Psychological: Persons at all levels of retardation may be emotionally disturbed, temperamentally unstable, aggressive or withdrawn. However, extremes of behavior are more characteristic of the idiot and imbecile than the moron and borderline levels.

Physical and environmental: Both the idiot and imbecile levels are marked by physical handicaps and defective speech. In contrast, the moron and borderline degrees may be somewhat inferior physically, but relatively normal in appearance. No one environmental background characterizes the idiot or imbecile. Morons, however, generally come from inferior social and economic backgrounds.

Prognosis: The idiot and imbecile levels include conditions of permanent arrest. There is no definitive statement about prognosis of the moron or borderline groups.

Problems and Issues

Intelligence and other aspects of functioning: Although intelligence has been the major dimension of functioning used to define levels of retardation, many writers have argued that intelligence is only one aspect of a person's functioning. Thus, they have used several dimensions of behavior to define the broad categories of idiot, imbecile, and moron. In many instances, the total picture of a person's functioning does not fit, in more or less important ways, the theoretical level to which he is assigned. This reflects the fact that the intercorrelations among various dimensions of functioning are not perfect, whereas the clustering of persons within one level on the basis of intelligence in addition to other characteristic behaviors assumes perfect intercorrelations. This assumption is manifestly incorrect. A person might function at one level intellectually, and at another level socially. Therefore, if persons are categorized within one broad level of retardation, there must be some selective inattention to part of the data. Classification on the basis of three or four levels of retardation probably is a convenient administrative procedure for some purposes, but such a classification hardly does justice to the task of providing an accurate symbolic map of the actual complexities of behavior.

A second problem involves the fact that within any given level of intellectual performance, there may be important differences in other aspects of functioning which differentially influence any action taken. Gross definition by level of retardation loses the specificity of information often required for taking appropriate action. For example, whether an imbecile is temperamentally stable or unstable makes a difference in the kinds of training procedures that might be followed most profitably. Even if these differences in various aspects of functioning are within the gross ranges generally assigned to each level, there is no basis for indicating specific strengths or weaknesses that might serve as a guide for effective action. For educators, this problem is of particular importance at the higher levels of intellectual retardation, because the particular educational practices that might be desirable or even feasible not only depend upon intelligence, but also upon the capacity of the individual to function within the limits and demands of the school environment. Thus, the designation "moron" does not communicate sufficient information upon which to base a realistic and beneficial decision about a potential student.

In a sense, level of intellectual functioning defines the area of mental retardation and, at first glance, a system of terminology based on levels of intellectual retardation would seem to be the most straightforward and appropriate kind of classification. But as knowledge of mentally retarded functioning has increased, writers have consistently noted that the I.Q. provides insufficient information on which to base an adequate diagnosis. As a consequence, other criteria have been added to diagnostic considerations,and levels of retardation have been defined by clustering intellectual level of functioning with characteristic levels of performance in other, non-intellectual dimensions of functioning. But these various dimensions of functioning may not be highly intercorrelated, and a system of terminology based on a few gross levels of retardation fails to recognize important individual differences that may be crucial for any particular purpose. Therefore, assuming the I.Q. alone is insufficient, if a diagnosis should be multi-dimensional, and if individual differences are important for guiding action, the system of terminology must provide some basis for communicating the multi-dimensional individual differences relevant to any particular purpose.

Educational Terms

Educational classification systems consider the differences between non-educable, socially incompetent individuals, and persons who may be socially competent, trainable, or responsive to specialized curricula. In proposing various divisions of educability, the literature recognizes that social independence and traditional grade performance are not inextricably related.

Custodial

Generally, custodial cases include individuals with organic pathology evident from birth or an early age. I.Q. maximum is below 35; M.A. maximum is below three. A few writers classify all persons with an I.Q. below 50 as custodial, assuming that neither training nor education are possible. Unable to care for personal needs, lacking a stable personality, often physically and verbally handicapped, a custodial person requires close supervision, assistance, and institutional care.

Examination of the factors descriptive of custodial indicates that, in all major respects, custodial is defined in the same way as idiot. The word custodial has social connotations; the word idiot has intellectual reference. According to many writers, custodial is less stigmatizing than idiot.

Trainable

Related terms and words used as synonyms for trainable include: severely mentally retarded, mentally defective, severely defective mentally, mentally deficient, feeble-minded, uneducable, and ineducable.

Etiology: Generally, trainable includes individuals with a constitutional disturbance evident from birth or early age.

Intelligence: Although there are slight differences among writers, I.Q. ranges approximately from 20 to 50; M.A. from three to eight; C.A. from five to eighteen.

Education: Trainable children fail to learn as readily as normals and are permanently excluded from traditional schools. Because of deficient intellectual potential, trainable children are not educable, but may profit from training. The circularity of the definition is obvious.

Maturation and social competence: Maturation of trainable persons differs from normals. Permanent social inadequacy necessitates supervision and control.

Psychological: Psychological problems of the trainable involve considerations similar to those of normals.

Physical and environmental: Secondary handicaps such as speech and motor defects may be present. According to several writers, eligibility for training classes depends on control of personal habits and sufficient speech to make wants known.

Prognosis: Trainable individuals are permanently incapable of attending regular schools and are permanently socially inadequate.

Educable

Etiology: Few writers discuss etiology. Some note that the condition is usually present from birth or early age.

Intelligence: Many writers reserve the term educable for I.Q. ranging from 50 to 75, 80, or 85; C.A. eight to eighteen. One writer states that the I.Q. range is from 40 to 109, and a few authors merely state that educable individuals vary considerably in intellectual performance.

Education: There is general agreement that educable children exhibit all around academic inferiority. School readiness occurs later than normal; school performance in traditional subjects is below normal. Educable children are unable to attend regular academic schools, but can attend specialized facilities and specialized classes with appropriate curriculum modifications.

Maturation and social competence: There is general agreement that educable individuals may become socially adjusted, such as occupationally self-supporting. However, most authors speak of limited social adjustment, which implies adjustment with supervision in a simplified environment.

Psychological: Writers agree that educable individuals vary with regard to psychological behavior. Prone to disturbance, subject to emotional illnesses, the educable individual's psychological adjustment may be tenuous.

Physical and environmental: A few writers maintain that educable persons frequently have secondary defects,such as word blindness. Some writers state that impoverished environmental backgrounds are characteristic of the group.

Prognosis: Although educable has been clustered with the terms backward and school backwardness, some writers attempt to distinguish between educable and backward. Backwardness differs from educable in the sense that backwardness may be an acquired, and therefore remediable, condition. Although backward and educable mentally handicapped may present identical syndromes, backwardness presumes that if the underlying stress, such as poverty, is alleviated, the condition can be altered. Backwardness, so defined, is a concept of pseudo-feeble-mindedness.

Slow Learners

The term slow learners includes individuals whose intelligence is below average but is above educable. I.Q. ranges from 70 to 90. Slow learners are handicapped in the regular classroom, and academic progress usually is retarded. Several writers state that slow learners should remain in the regular classroom under special guidance. Social adjustment is possible. Environmental deprivation is believed to be a major factor causing the condition.

Dull

Ethiology: Dullness may be an inherent condition.

Intelligence: Dull individuals are described generally as persons whose development comes to a halt earlier than normal; dull represents the lower end of normal intelligence. A large number of writers state that I.Q. ranges from 75 to 80, 90, or 100.

Education: Writers agree that dull individuals may function in regular schools or in regular classes, although school achievement is below normal. For example, the dull individual may reasonably expect to complete only about four or five grades.

Maturation and social competence: Various points of view regarding social competence state that economic and social independence are possible; supervision and support are necessary; social performance is limited in various respects.

Psychological: One opinion states that dull persons may be stable or unstable, and another opinion maintains that dull individuals are more prone

Table 4. EDUCATIONAL TERMS

Term	Etiology	Intelligence	Education	Maturation & Social Competence	Psychological	Physical & Environmental	Prognosis
Main Term : CUSTODIAL Equivalent terms: -Idiot -Low grade defective -Helpless low grade -Maladjusted high grade -Physically handicapped high grades -Total care dependent -Level 1	a)majority of cases pathological in origin; condition exists from birth or early age (10,111)	a)IQ below 25; MA below 3 (10,168,182) b)IQ below 50 (83,133)	a)neither training nor education feasible (10,83, 158,182)	a)socially incompetent,e.g. can not protect self from danger; requires help in self-care; supervision and control necessary (10,98,125,158, 168,179,182)	a)personality typically unstable (168,179,182)	a)limited speech; defects of speech (10,158,168,182) b)physical defects,e.g. malformations; walking difficulties (10,158,179)	

Term	Etiology	Intelligence	Education	Maturation & Social Competence	Psychological	Physical & Environmental	Prognosis
Main Term : TRAINABLE Equivalent terms: -Severely mentally retarded -Mentally defective -Severely defective mentally -Mentally deficient -Feeble-minded -Semi-dependent -Level 2	a)condition generally non-familial in origin; usually evident from birth or early age (10)	a)general broad IQ ranges 20-50; MA 3-8; CA 5-19 (some disagreement within general ranges noted, e.g. cut-off CA 16,18; MA 7,etc.) (10,74,85, 145,168, 182,185) b)Kuhlmann IQ above 25 or 35 (68,70,74)	a)fails to learn as readily as normals (182) b)permanently unable to attend regular schools (10,123,158, 168) c)profits from training,e.g. self-care, toilet, and routine tasks (10,158) d)eligibility for training depends on following factors: 1)ambulatory 2)ability to care for own needs;3)sufficient speech to make wants known; 4)personality stability,e.g. not too anti-social (68,145)	a)permanent social inadequacy, e.g. vocationally inadequate; require supervision and protection; may function in sheltered conditions (10,74,78,83, 123,145,158, 168) b)significant maturational delays (10)	a)personality ranges do not differ from normals (182)	a)limited speech,e.g. defects; poverty of ideas (10,74,145, 158,168)	a)permanent social inadequacy, e.g. require supervision and custody (123,168) b)permanent inability to attend regular schools (123,168)

Table 4. EDUCATIONAL TERMS (cont)

Term	Etiology	Intelligence	Education	Maturation & Social Competence	Psychological	Physical & Environmental	Prognosis
Main Term : UNEDUCABLE or INEDUCABLE	a)condition generally not familial (127)	a)IQ below 75,e.g. 50-60, 50-75 (83,127, 144,171, 172)	a)unable to profit from regular schools, however may profit from training (83,127,144, 171,172)	a)socially inadequate,e.g. require supervision; inability to be self-supporting (127)		a)physically inferior (127)	a)permanent condition (83,127)
	b)includes physical deviations (171,172,144,83)			b)may be institutionalized (127,171,172)			

Table 4. EDUCATIONAL TERMS (cont)

Term	Etiology	Intelligence	Education	Maturation & Social Competence	Psychological	Physical & Environmental	Prognosis
Main Term : EDUCABLE Terms with similar criteria; terms emphasizing one criterion : -Academic educational defective -Educable mentally defective -Educable mentally retarded -Educationally backward -Educationally deficient -Educable mentally handicapped -Educationally subnormal -Backward -Educationally retarded -Educationally defective -Intellectual inadequacy -Well adjusted young high grades -School backwardness -Marginal dependent -Level 3	a)inherent lack of ability from birth or early age (72,100,175)	a)IQ range 50 to 70,75,80 or 85;CA 8-18 (10,12,20,21, 61,63,91,100, 105,145,168, 171,172,182)	a)potentially educable; unable to attend regular schools; but, if relatively well adjusted, may respond to special training classes and to an individual program (61,63,72,79, 91,100,102, 158,168,171, 172,175,179, 182)	a)limited social adjustment possible,e.g. may become occupationally self-supporting in unskilled jobs; supervision and guidance necessary (10,43,63,72, 100,105,158, 171,172,179)	a)varying personality problems, e.g. distractible; lack of ability to concentrate; lack of persistence (10,12,20, 21,31,54, 91,105,168)	a)may have physical disturbances or specialized defects,e.g. word blindness (54,105,171, 172)	a)backwardness may be remediable condition e.g. culturally acquired retardation (20,136,171, 172)
		b)IQ range 40-109 (31)	b)below average academic performance,e.g. academic readiness occurs later than normal; fails to make normal progress; all around backwardness (10,20,72,91, 93,158,171,172, 175,179,182)		b)personality does not differ from normals (136)	b)environmental deprivation,e.g. poverty; lack of cultural stimulation (20,21,91, 105,175)	
		c)varying intellectual performance, e.g. deficient; normal; above normal (12,54)				c)fair motor development;can communicate (158)	

Table 4. EDUCATIONAL TERMS (cont)

Term	Etiology	Intelligence	Education	Maturation & Social Competence	Psychological	Physical & Environmental	Prognosis
Main Terms : DULL or BACKWARD Equivalent and related terms : -Borderline dull includes : stable borderline dull unstable borderline dull -Mild amentia -Borderline retardation -Educational deficiency -Dullard -Simple-minded	a)dullness may be an inherent condition (105,171,172)	a)lower end of average range of intelligence; intellectual development comes to a halt earlier than normal (20,100,136, 175)	a)may attend regular schools in special classes; may complete elementary school (20,100,105, 171,172)	a)over-all reduction of performance including mild developmental delays (105,136)	a)may be emotionally stable or unstable (66)	a)general reduction of performance, e.g. language behavior, motor behavior (66,171,172, 175)	a)dullness a permanent condition (105,171,172)
	b)may be acquired,e.g. environmental (105,171,172, 136)	b)IQ 70 or 75 to 85,90, or 100 (105, 152, 162,168,171, 172,181)	b)school achievement different from normal, e.g. retarded one to two years in elementary grades; able to reach 4th or 5th grade (20,100,113, 171,172)	b)capable of achieving social and economic independence (105,123)	b)irrational behavior, e.g. screaming attacks, monotonous behavior; may behave rigidly (105)		b)acquired form may be remediable (105,136, 171,172, 175)
				c)require supervision and support (113)			

Table 4. EDUCATIONAL TERMS (cont)

Term	Etiology	Intelligence	Education	Maturation & Social Competence	Psychological	Physical & Environmental	Prognosis
MAJOR TERM : BORDERLINE Equivalent terms; terms with similar criteria: -Borderline defective -Marginally inadequate -Borderline normal -Subcultural -Mental subnormality -Marginal -Functionally mentally retarded -Intellectual subnormality -Intellectual retardation -Level 4	a)includes brain-injured children (50)	a)IQ 60 or 70 to 85 or 90; MA 8-12 (37,43,44, 93,100,113, 162,163,173, 179,182)	a)retarded educationally, e.g. may respond to academic instruction in regular or special classes; maximum achievement 4th to 5th grade (100,113,158, 182) b)cannot successfully function in regular schools (93,158)	a)require supervision (113) b)possible social competence, e.g. guidance helpful (37,43,44,47,54, 93,158,179) c)over-all impairment, e.g. self-expression and maturation (42,47,66)	a)psychodynamics comparable to normals (50) b)includes stable, unstable, defective subgroups which cluster individual according to personality organization (66)	a)physically inferior to normals (20) b)minimal retardation in sensory-motor skills (158)	
Major Term : SLOW LEARNING	a)condition may be a constitutional deficiency (100)	a)IQ 70 to 90 (below average intelligence (10,100, 140)	a)handicapped in traditional academic curriculum, e.g. one year behind average for his age; requires special curriculum (10,100) b)may remain in regular classroom provided special instruction is provided (10,100)	a)capable of social adjustment, e.g. economic security provided (10)		a)environmental deprivation e.g. limited social, cultural, and educational opportunities (100)	

to irrational personal behavior.

Physical and environmental: General physical and speech inferiority is considered to be characteristic of the group.

Prognosis: Dullness may be a permanent condition. One author asserts that dullness may be permanent or remediable, depending upon the individual case. Again, the problem of pseudo-feeble-mindedness is involved. Individuals whose dullness is a consequence of personal difficulties or various forms of deprivation may only appear to be dull and may achieve a normal functioning if competently diagnosed and treated.

Educational Terms and Classification by Degree

Although writers maintain that educational terms differ from idiot, imbecile, moron, and borderline, the fact is that both sets of terms are defined by equivalent criteria. If one considers the operations defining each term, custodial is equivalent to idiot, trainable to imbecile, educable to moron, and borderline to dull. Some writers note subtle distinctions, but for practical purposes, the definitions of the two sets of terms appear to be substantially equivalent.

Problems and Issues

Local differences: The definitions of terms relevant to education and training of the mentally retarded partly depend upon estimates of actual or potential achievement; however, achievement is a function of the local educational situation, including the kinds of teachers and facilities available, and the measures and standards of achievement used. Obviously, schools differ. Hence, terminology concerned with education of the mentally retarded must deal with local differences which influence potential achievement. One solution simply is to recognize that definitions of educational terms on the basis of achievement differ from one school to another. But if the terms are to have some meaning that can be generalized beyond a local situation, comparable measures of achievement must be used and some means must be designed to account for differences in educational opportunities.

Dimensions and specificity of classification: There are many possible bases of classification for educational purposes. For example, one could classify students on the basis of general intellectual level with sub-classes for special abilities or disabilities, special social or maturational problems, particular psychological or physical characteristics. Furthermore the classification within a dimension might be made with any degree of specificity. However, we do not know the most effective way to group mentally retarded children for educational purposes. Lacking substantial and consistent empirical research, the question of what are the most effective kinds of groupings in schools remains unanswered. Therefore, a system of terminology which would provide some basis for effective school grouping, particularly at the higher levels of retarded functioning can be formulated only on the basis of a reasonable and tentative guess about the kinds of groupings that are likely to be educationally meaningful.

Although the I.Q. provides the only reliable basis for educational classification at the present time, the usefulness of intelligence tests is limited by the fact that these tests were designed for predicting whether or not a child can benefit from the normal academic curriculum of primarily symbolic learning. Thus, we can exclude the child from the normal classroom on evidence of low I.Q., but this does not mean that the child can not benefit from training which does not depend upon symbolic abilities. The important task which remains after excluding the mentally defective child from the normal classroom is appropriately *including* him in a training situation which will capitalize on what the child with a low I.Q. can do. Unfortunately, no tests standardized and validated on a population of low I.Q. children are available, and while the I.Q. probably can serve as a basis for deciding whether or not a child is trainable or educable, no standardized testing procedures are available for making more specific recommendations within these broad classes.

A Proposal for Educational Terminology

Although further research may improve the terminology of mental retardation, the educator is faced with the immediate problem of using some set of terms applicable to educational purposes. Any system of terminology is subject to revision and reformulation as a result of increased knowledge and improved measurement techniques. But at the present time there is need for a tentatively agreed upon set of terms for educational use.

In formulating such a system, it is suggested that the terms most frequently cited in the current educational literature relevant to mental retardation be used as a basis for terminology. It is recognized that the definitions of educational terms found in the literature are substantially similar to the older classification of idiot, imbecile, and moron, with a somewhat greater stress placed on educational or training achievement. Therefore, any advantage gained from the use of educational terms is not a function of the greater validity of the definitions of these terms. In fact, the definitions tend to be vague, general, and somewhat circular, such as "a trainable person is one who is not educable but is trainable." Nevertheless, it is unlikely that any profit will be obtained merely by introducing a new set of terms or by replacing current words by numbers, alphabetical designations, or other euphemistic nomenclature. Current terms such as custodial, trainable, educable, and slow learner seem reasonable and appear to have at least an immediate connotative relevancy to the educational situation. Furthermore, they have probably not yet acquired the negative connotation of older terminologies, such as idiot and imbecile, although the acquisition of such connotative meanings is largely a function of time and generality of usage. Therefore, recognizing the limits, faults, and inevitability of future change, the terms custodial, trainable, educable, and dull are recommended as the framework of educational terminology.

Undoubtedly more important than the selection of words is the problem of definition. Any of a large number of words might have value, depending upon the precision and practicality of the definitions associated with a given set of words. The formulation of educational terminology must include a system of relevant definitions as precise and concrete as current knowledge and available measurement procedures allow. To this end, it is suggested that each term be defined on the basis of generally agreed upon characteristics noted in the survey of the literature. The recommended terms and definitions are as follows:

1. Custodial: I.Q. below 35; M.A. below three.

2. Trainable: I.Q. from 35 to 50; sufficient emotional stability, control of personal habits, motor and speech ability to function in training classes.

3. Educable: I.Q. from 50 to 75; sufficient emotional stability, control of personal habits, motor and speech ability to function in specialized educational facilities.

4. Slow learners: I.Q. from 75 to 90; sufficient emotional stability, control of personal habits, motor and speech ability to function in regular classes.

It is obvious that merely summarizing the definitions proposed in the literature does not solve the problems of inadequate measurement and amorphous criteria. Nor does such summary of definitions adequately account for local differences in emphasis and usefulness of various facets of a definition. Nevertheless, a standard set of terms and definitions may clarify usage and communication, and may serve to underline those areas of definition which are particularly vague or can not adequately be measured.

In the proposed scheme it is recommended that I.Q. serve as the major determinant in defining terms. Of course, other dimensions of functioning must be considered; this proposition has been emphasized throughout the literature. But the fact remains that I.Q. is the only relevant factor which can be measured reliably and thereby provide at least some basis for definitions generalizable beyond a particular situation. Furthermore, the non-intellectual dimensions of functioning can be indicated only in fairly general terms. Precise cut-off points or particular kinds of profiles associated with a term can not be specified with any degree of confidence. This kind of specification, if done at the present time, would reflect primarily a relatively unsubstantiated bias. It seems best, therefore, to recognize the limits of current knowledge, and for practical purposes, use the criteria generally agreed upon by writers in the field.

The problem of legal classification for educational purposes can not be resolved merely by a set of terms. Educational and legal decisions nevertheless must be made within a relatively straightforward classification system based on reliable measurement. At the present time, intelligence tests provide the only reliable basis for such a system; however, it must be emphasized that a legal label for educational purposes, such as custodial or trainable, is not a complete diagnosis representing an over-all description of functioning.

In any single case, diagnosis and classification must be based on the best available information about intellectual and non-intellectual factors. But as a basis for a general system of terminology, it seems best to consider intelligence the major measurable dimension for which levels of functioning can be specified with even moderate precision, and to note the general areas of non-intellectual functioning which should be considered in diagnosis. Further research may permit more precise definition within each of these other areas. For example, a possible goal might be the discovery of appropriate multi-dimensional profiles which can most profitably be subsumed under a given educational term. Conceivably, one might develop a set of profiles with a specified cut-off point for each dimension of etiology, functioning, and prognosis, which would define the term educable, and another set of profiles and cut-off points to define trainable, etc. But this kind of comprehensive precision awaits future research.

Legal Terms

Legal terminology is based on the various scientific, clinical, and educational disciplines concerned with mental deficiency, and the terms and definitions found in the laws and regulations reflect the knowledge and conventional usages in psychology, medicine, and education. The survey of legal terminology, therefore, parallels much of what has been reviewed in other sections of this paper. For example, many laws and regulations refer to classification by degree of retardation or potential educational achievement, and many of the same kinds of problems, the confusion and lack of clarity, are found also in legal terminology. But these problems take on a particular and immediate significance in the formulation of legal terms because the laws, of course, must be the bases for legal action. The legislator thus is faced with the problem of constructing laws with sufficient precision and clarity to serve as a reasonable basis for action, but he must also be aware of the complexities of diagnosis of mental deficiency and the lack of a comprehensive body of scientific information upon which an adequate legal terminology might be based. Consequently, the laws contain, on the one hand, precise definitions of terms on the basis of I.Q. or educational achievement, and on the other hand, general and often vague statements about other aspects of functioning.

Legal terms have been divided into three major groups: (1) those appearing in state laws; (2) those in state regulations; and (3) terms mentioned in the regulation of ten representative cities. The content analysis of these terms is summarized in Tables 5, 6, and 7. The numbers after each point in these tables do not refer to the bibliography considered in other sections of this report, but rather to the numbered list of states and cities. Thus, in the table concerned with state laws, the number "1" after a particular point indicates that the idea is contained in the laws of Alabama, "2" in Arizona, etc. Similarly, in the table concerned with representative city regulations, "1" refers to Baltimore, "2" to Boston, etc.

State Laws

General terms defined in state laws include: mentally retarded; retarded mental development; exceptional children; mentally deficient; mentally handicapped; handicapped children, persons, or pupils; defective mental development; and educationally exceptional. Notwithstanding this extensive list of terms, the criteria defining these terms are few and include only a small number of important concepts.

Etiology: No term appearing in the state laws is concerned with causal factors.

Intelligence: All of the major terms and equivalent synonyms use retarded intellectual functioning as a major criterion of definition. In certain instances, the phraseology is modified, such as "retarded intellectual development," or "deviation from normal intelligence," but regardless of modification, there is general consensus that the group defined is identifiable by intellectual performance lower than normal. Only eight states distinguish two groups of low intellectual functioning, trainable and educable. Trainable individuals range in I.Q. from 25 to 50, with M.A. from two to seven. The I.Q. of educable persons ranges from 48 to 78, with M.A. from seven to eleven.

Education: Individuals of low intellectual functioning can not profit from traditional academic instruction in the ordinary classroom but may respond to a specialized program of training.

Maturation and social competence: The laws of only two states note that social functioning is impaired. Six states distinguish two groups: (1) trainable persons, who are socially handicapped; and (2) educable persons, who may function independently with minimal supervision.

Psychological: Two states indicate the possibility of concomitant emotional problems.

Physical and environmental: A number of states indicate that secondary physical handicaps may be present.

Summary: Despite the variation of terminology appearing in the state laws, the defining criteria of all terms are limited basically to a few concepts. Briefly, these concepts include generalized statements regarding lowered intellectual performance, inability to attend traditional schools, limited social functioning, and secondary physical and psychological handicaps. In general, the specific implication of each of these broad designations is not indicated.

7

State Regulations

Two groups of terms are recognized in the state regulations. One group is concerned with generic terms, such as mentally retarded and mentally handicapped, and a second group considers criteria for identifying the various types of individuals who may respond to training and education.

The general terms such as mentally retarded and mental disability include individuals whos condition may be constitutional in origin. For example, brain damage may be the cause of retardation. Intellectually, these persons function differently from, and at a lower level than, normals. There is some difference in range of I.Q. indicated; some regulations specify a range from 50 to 75, others specify 20 to 90. All definitions indicate that successful regular school performance is unlikely and not profitable, although specialized training facilities and instruction may materially benefit the retarded in such areas as social adaptability, attitudes, and self-help. Individuals who are retarded exhibit defective maturational development. Social independence is not likely,although some adults who have been provided with extensive training may function independently. Concomitant with lowered intellectual performance are varying degrees of personal maladjustment and physical disability. One state regulation indicates that the condition is permanent.

The second group of regulations is concerned with educational potential. Custodial persons are identifiable by an I.Q. range from 0 to 35, a failure to benefit from instruction, social incompetence, and a lack of intelligible communication. Trainable persons are developmentally incomplete and frequently are brain-damaged. The I.Q. of trainable persons ranges from 20 to about 60. These individuals do respond to training but do not respond to ordinary classroom instruction. Eligibility for a training program depends on the individual's ability to communicate, show "clean body habits," and respond to demands. If sufficiently trained, these persons may achieve some degree of economic usefulness.

Educable persons may show some constitutional involvement. The I.Q. range noted is from 50 to 75 or 80. Like custodial and trainable, the educable can not attend regular schools but may profit from specialized educational facilities. Developmental defectiveness, such as slow maturation, is characteristic. Educable persons may be socially incompetent, or socially competent with some supervision.

Slow learners are identifiable by an I.Q. score of 70 to 90. Some states indicate a range of 50 to 75. These individuals are incapable of regular academic instruction but may attend regular schools provided special classes are available.

Regulations of Ten Cities

The general term mentally retarded appears in the regulations of only two cities and is defined as persons with an I.Q. range from 50 to 78. The remaining terms are specifically concerned with differentiating various types of children who may or may not function in various educational programs. For example, custodial individuals have an I.Q. below 25; trainable individuals range in I.Q. from 20 to 50, and may be responsive to limited training although they can not become socially independent members of a community. Educable persons range in I.Q. from 48 to 80, with an M.A. range from five to twelve. Schooling is limited to two or three grades and general school progress is half to three-quarters that of normals. Some vocational independence may be possible. Requirements for admittance to a training program include adequate speech and some social adaptiveness.

Problems and Issues

Specificity of purpose: The usefulness of legal terms obviously must be evaluated by technical experts familiar with the problems and purposes for which

Table 5. FACTORS INCLUDED IN DEFINITIONS OF TERMS AS CONTAINED IN THE STATE REGULATIONS

Term	Etiology	Intelligence	Education	Maturation & Social Competence	Psychological	Physical & Environmental	Prognosis
General Terms Main Term : MENTALLY RETARDED Equivalent and related terms : -Mentally defective -Mentally handicapped -Exceptional children -Mental disability	a)retarded condition is constitutional in origin (17)**	a)mental incompetence; retarded intellectual development (4,8,14,17, 22,23,27,31, 35,45)	a)incapable, because of retarded intellectual ability, of profiting from education in traditional academic subjects (4,8, 10,14,22,24, 29,31)	a)over-all development is defective (17)	a)may have personality disturbances e.g. anti-social behavior (23)	a)may have varying degrees of physical defectiveness (10,23,45)	a)essentially an incurable condition (17)
	b)brain damage may be cause of retardation (43)	b)IQ ranges 50-75 or 80; various ranges cited, e.g. 50-70 (1,17,21,23, 24,36,38,43)	b)require special facilities and curricula (8,10,12,29)	b)socially incompetent (17,18)			
		c)IQ 20-79 9r 80; IQ 30-75 or 80 (19,34,39)	c)retarded includes varying degrees of educable potential, e.g. not trainable, trainable, educable, slow learners (14,15, 18,19,23,28,30, 31,33,34,36,37)	c)some adults, if sufficiently educated, may be partially or wholly self-supporting (14,30,39)			
		d)IQ below 50 to 90 (33)					

**Bibliographical numbers in Tables 5 and 6 correspond to states as listed below. For Table 5, see Bibliography for State Regulations; for Table 6, see Bibliography for State Education Laws.

1. Alabama
2. Arizona
3. Arkansas
4. California
5. Colorado
6. Connecticut
7. Delaware
8. Florida
9. Georgia
10. Idaho
11. Illinois
12. Indiana
13. Iowa
14. Kansas
15. Kentucky
16. Louisiana
17. Maine
18. Maryland
19. Massachusetts
20. Michigan
21. Minnesota
22. Mississippi
23. Missouri
24. Montana
25. Nebraska
26. Nevada
27. New Hampshire
28. New Jersey
29. New Mexico
30. New York
31. North Carolina
32. North Dakota
33. Ohio
34. Oklahoma
35. Oregon
36. Pennsylvania
37. Rhode Island
38. South Carolina
39. South Dakota
40. Tennessee
41. Texas
42. Utah
43. Vermont
44. Virginia
45. Washington
46. West Virginia
47. Wisconsin
48. Wyoming

Table 5. FACTORS INCLUDED IN DEFINITIONS OF TERMS AS CONTAINED IN THE STATE REGULATIONS (cont) (2)

Term	Etiology	Intelligence	Education	Maturation & Social Competence	Psychological	Physical & Environmental	Prognosis
Terms primarily concerned with educable potential: Main Term: CUSTODIAL Equivalent term: -Custodial mentally handicapped		a)IQ ranges 0-35 (16,19,47)	does not benefit from education (16,19,47)	a)socially incompetent,i.e. fails to attain clean body habits; can not respond to direction (6)		a)lack of intelligible communication (6)	
Main Term : TRAINABLE Equivalent and related terms : -Trainable mentally handicapped -Trainable mentally retarded -Severely retarded -Severely mentally retarded -Un- or non-educable -Group 2 -Mentally uneducable -Children with intellectual handicaps -Severely	a)incomplete development or brain damage (43)	a)retarded intellectual development (11,22) b)IQ ranges 20 to 50 or 60; minimum MA 3 years (various ranges are cited,e.g. 25-49, 35-50, 40-60) (1,14,15, 16,18,21, 30,31,33, 34,39,42, 43,47)	a)does not benefit from ordinary classroom or special facilities (11,14,15, 19,22,31, 36,43,46) b)may profit from special training (11,15,16, 31,36)	a)criteria for eligibility to training program include: 1)clean body habits; 2)obedience to simple commands; 3)ability to walk (6) b)some degree of social adjustment possible under supervision,e.g. partially or wholly self-supporting		a)limited communication (28)	

Table 5. FACTORS INCLUDED IN DEFINITIONS OF TERMS AS CONTAINED IN THE STATE REGULATIONS (cont) (3)

Term	Etiology	Intelligence	Education	Maturation & Social Competence	Psychological	Physical & Environmental	Prognosis
Main Term: EDUCABLE Equivalent and related terms : -Educable mentally handicapped -Educable mentally retarded -Moderately retarded -Group 1 -Children with intellectual handicaps -Moderately	a)condition may be constitutional in origin (17)	a)retarded intellectual performance (7,22,25) b)IQ ranges from 50 to 75 or 80; MA 5-11; various ranges are indicated, e.g. IQ 55-60; IQ 55-69; IQ 50-79 (2,6,7,13,17,18, 19,21,24,29,30, 31,32,33,39,41, 42,43,47,48)	a)unable to attend regular academic schools (7,15,22,41) b)capable of profiting from special educational facilities, e.g. some literacy possible (2,7,11,15, 16,29,32,33, 41)	a.)rate of development is defective; that is, development differs from normals from birth or early age (11,17) b)socially incompetent (17,18) c)possible social competence, e.g. may be self-supporting with some supervision; may be socially and economically independent (21,28,32,39,43)			
Main Term : SLOW LEARNER Equivalent terms : -Mildly retarded -Mildly -Mentally retarded		a)IQ 50-75 (34) b)IQ ranges 70-90; various ranges indicated, e.g. 70-80; 75-90) (13,16,33,47)	a)incapable of regular academic instruction (34) b)capable of limited academic achievement in special classes (34)				

Table 6. FACTORS INCLUDED IN DEFINITIONS OF TERMS AS CONTAINED IN STATE LAWS

Term	Etiology	Intelligence	Education	Maturation & Social Competence	Psychological	Physical & Environmental	Prognosis
Major Term : EXCEPTIONAL CHILDREN Equivalent and related terms : -Handicapped -Educable (with reservations) -Mentally retarded -Severely -Psycholgically exceptional		a)mentally retarded,i.e. deviate from normals (1,8,17,22, 32,35,39,40 41)**	a)cannot profit from regular academic class room instruction (1,8,17,22, 35,39,41,46)	a)impaired social functioning (40,46)	a)may have emotional disturbance (32,46)	a)may have physical defects or handicaps,e.g. inability to control body functions; impaired hearing or sight (1,32,40,46)	
			b)may profit from specialized facilities and instruction,e.g. possible 3rd grade level attainment; possible self-support or employability (1,8,17,35,39, 40,41,46)				

**For meaning of bibliographical numbers, refer to Table 5.

Table 6. FACTORS INCLUDED IN DEFINITIONS OF TERMS AS CONTAINED IN STATE LAWS (cont)

Term	Etiology	Intelligence	Education	Maturation & Social Competence	Psychological	Physical & Environmental	Prognosis
Major Terms : MENTALLY DEFICIENT MENTALLY HANDICAPPED HANDICAPPED CHILDREN, PERSONS OR PUPILS DEFECTIVE MENTAL DEVELOPMENT Equivalent and related terms : -Exceptional -Educable mentally handicapped -Trainable mentally handicapped -Custodial mentally handicapped -Exceptional mental condition -Educatable (sic) -Handicapped children -Mentally handicapped -Severely handicapped -Severely mentally retarded -Educationally exceptional children -Educable, includes Trainable Custodial		a)retarded mental development with lowered intellectual functioning, e.g. 3 or more years retarded (3,7,10,11,12,13, 15,16,18,21,25,26, 27,31,38,43,44,45, 47,48) b)IQ 35 to 50 (33,47) c)MA ranges 7-11 (educable mentally handicapped) (6,24)	a)intellectually incapable of profiting from regular academic classroom instruction, but may benefit from special facilities and training classes (3,5,6,7,11, 12,13,15,16,18, 20,21,25,26,27, 33,38,42,43,44, 47)	a)eligibility for specialized training depends on social competence, e.g. response to commands; ability to care for self (6,24) b)may be socially handicapped,e.g. reduced capacity for self-support (27,45) c)if sufficiently trained, may be socially and economically productive (15)		a)physical defects may be present (11,18,27, 31,42,43, 45)	

Table 6. FACTORS INCLUDED IN DEFINITIONS OF TERMS AS CONTAINED IN STATE LAWS (cont)

(3)

Term	Etiology	Intelligence	Education	Maturation & Social Competence	Psychological	Physical & Environmental	Prognosis
Major Terms: MENTALLY RETARDED RETARDED MENTAL DEVELOPMENT Equivalent and related terms -Educable -Educable mentally retarded -Trainable -Trainable mentally retarded -Custodial mentally retarded -Severely retarded children -Mentally deficient -Mentally retarded minors -Retarded intellectual development		a)retarded intellectual development (4,23,30,37) b)trainable group IQ range 25-48 or 50; minimum MA 2 (23,30) c)IQ range 48-78, minimum MA 3 (23,37)	a)incapable of profiting from academic instruction in ordinary schools, but may benefit from specialized training, facilities, and classes (4,14,23,28, 30,37)	a)IQ 50 and below: trainable may be capable of limited social independence e.g. exercising caution; functioning in a sheltered environment; some social participation; some communication (28) b)IQ above 50: educable group may function independently with a minimum of supervision (28)			

Table 7. FACTORS INCLUDED IN DEFINITION OF TERMS AS CONTAINED IN THE REGULATIONS OF REPRESENTATIVE CITIES

Term	Etiology	Intelligence	Education	Maturation & Social Competence	Psychological	Physical & Environmental	Prognosis
General terms identifying the area : MENTALLY RETARDED RETARDED MENTAL DEVELOPMENT (term appears in the regulations but is not defined)		IQ ranges from 50 to 78 (5,10)**					
Terms specifically concerned with educable and trainable criteria : Major Term : UNEDUCABLE Related terms: -Untrainable -Custodial		IQ below 25 (8,10)					

**Bibliographical numbers in Table 7 refer to cities as listed below. See Bibliography for City Regulations.

1. Baltimore, Maryland
2. Boston, Massachusetts
3. Chicago, Illinois
4. Cincinnati, Ohio
5. Milwaukee, Wisconsin
6. New Orleans, Louisiana
7. New York, New York
8. Philadelphia, Pennsylvania
9. San Francisco, California
10. St. Louis, Missouri

Table 7. FACTORS INCLUDED IN DEFINITION OF TERMS AS CONTAINED IN THE REGULATIONS OF REPRESENTATIVE CITIES (cont)

Term	Etiology	Intelligence	Education	Maturation & Social Competence	Psychological	Physical & Environmental	Prognosis
Major Term : TRAINABLE Related terms : -Mentally handicapped -Severely limited child -Severely mentally retarded -Low intelligence -Uneducable but trainable		a)IQ ranges from 20 to 50; MA ranges from 3 to 8 (1,2,3,5,6, 7,8,9,10)	a)limited specific training possible (1)	a)fails to mature either socially or intellectually (8) b)limited potential for social independence,e.g. self-support;making adequate personal decisions; ability to care for self; requires support, supervision (1,9)			
Major Term : EDUCABLE Related Terms : -Mentally handicapped -Mentally deficient -Slow learners		a)IQ may range from 48 to 80; MA may range from 5 to 12 (2,4,6,7,9,10)	a)school progress half to three-quarters that of normal child (3) b)may successfully complete 3 or 4 elementary grades (3)	a)may be trained to perform skilled work; self support may be possible (3)	a)ability to relate to others a requirement for potential educability (3)	a)adequate speech necessary for admittance to program for educable (3)	

these terms were formulated. In general, legal terminology is similar to educational terms and classification by level of retardation. Major emphasis is on I.Q. with some reference to social competence. Definitions tend to be even more general than those in other areas, such as education, but this generality may be most appropriate for legal purposes. As in other fields, the value of legal terminology is a function of the purposes of the terms. However, it may be noted that legal terminology is not inconsistent with classifications developed in other areas of mental retardation.

Pseudo-Feeble-mindedness

The terms pseudo-feeble-minded, impermanent mental defectives, pseudo-symptomatic retardation, and apparent feeble-mindedness are designations given to individuals who, despite evidence of defective intellectual and social functioning, are not permanently defective. These terms are concerned primarily with errors in diagnosis. In many respects, the area of pseudo-feeble-mindedness is a commentary on the need for an accurate diagnosis. For if a diagnosis is complete in every respect, presumably there would be no error and obviously no pseudo-feeble-mindedness. It has been stated in the literature, for example, that there is only"deficiency"or "no deficiency." If an original diagnosis later proves false, the logical conclusion is that the original diagnosis was in error. Nevertheless, writers in this area believe that there are many instances in which an individual appears to be feeble-minded and later functions normally. Generally, the literature consists of case studies demonstrating the errors, neglect, and inaccuracies of an original diagnosis.

Etiology: The literature states that brain-injured individuals or individuals whose performance has been affected by early illnesses may, because of inadequate medical treatment, fail to function normally. Presumably, an adequate medical history and physical examination would reveal the nature of the injury or illness and determine if treatment might improve functioning.

Intelligence: Individuals may be incorrectly diagnosed as deficient on the basis of an invalid test score. Writers agree that an accurate I.Q. can only be obtained if a well-trained, experienced examiner administers a wide battery of performance and verbal tests to an individual who is in relatively good health and is amenable to the test situation.

Education: Educational neglect or lack of opportunity and special disabilities are the areas most frequently cited as causes of pseudo-feeble-mindedness. The individual whose education is limited perhaps will perform in a deficient manner and accordingly be mistakenly classified as defective. A language barrier, for example, a non-English speaking child in an American school, and inadequate teachers are mentioned also as possible causes of pseudo-defective behavior.

Maturation and social competence: Too early a diagnosis made on the basis of an individual's pattern of maturation may lead to false diagnosis. The literature presents many case histories demonstrating that a diagnosis must allow for those persons whose development proceeds differently from that of normals but who are not defective. Instances of extremely late talkers and delayed school achievement indicate that an early childhood diagnosis based on the assumption of even and regular maturation may lead to invalid classification.

Psychological: Writers are in agreement that emotional disorders may be confused with defectiveness. Particularly emphasized is the schizophrenic whose defective behavior is easily mistaken for feeble-mindedness. Although distinguishing emotional disorders from defective disorders may be difficult, writers in this area stress the need for careful discrimination.

Physical and environmental: Physical handicaps, for example sight, hearing, and spasticity, may interfere with normal functioning and should not be confused with defectiveness. A deaf child, for example, may respond normally if given proper training. The environmentally deprived child with limited social and cultural experiences, a spastic child unable to control movements, are representative of some kinds of deprivation and handicaps which cause an individual to respond defectively.

Prognosis: The prognosis may be of reversibility if any one or several of the major stresses are removed. Illustrations of improved performance of individuals because of an enriched social environment, mastery of the test language, and psychotherapy are presented in the literature.

Summary: In summary, pseudo-feeble-mindedness is a condition of deficient performance which is not permanent and reflects an inaccurate diagnostic evaluation. An individual appears and performs as if he were defective, but given an adequate examination and full opportunities to overcome a handicap, this individual may function normally in society. Case histories in the literature illustrate the dangers of a diagnosis made on the basis of too few criteria and emphasize specific conditions which have, on the basis of clinical evidence, proved to simulate defectiveness.

Pseudo-feeble-mindedness would seem to be a concept which has significant implications for the treatment and education of the mentally retarded. But implementing these implications in practice is hampered by the vagueness of proposed actions and the inadequacy of diagnostic procedures. To say that a competent psychologist should examine a child for the possibility of pseudo-feeble-mindedness does little more than pass the problem of valid diagnosis to one member of a clinical team. What does the competent psychologist do in arriving at a decision about whether or not a child is pseudo-feeble-minded? Unless the concept is formulated with greater specificity to guide the actual operations and bases for making a diagnostic decision, the potential practical usefulness of the concept necessarily will remain limited. This suggests that a system of terminology should provide some basis for guiding diagnostic action in the identification of possible pseudo-feeble-mindedness. Terminology itself, of course, can not solve the problems of accurate diagnosis; however, it can provide some symbolic structure which will give direction to the development of effective diagnostic operations.

Diagnostic Considerations and Problems

A relatively accurate diagnosis of defective functioning is the result of extensive and careful examinations from medical, psychological, and pedagogical points of view. Diagnosis is multi-factorial; no one criterion is sufficient; only the consideration of many criteria and the interrelationship of several criteria may be helpful in the determination of a defective condition. The consideration of diagnostic criteria and critical implications form a major section of the literature and of this entire paper; therefore, this section only briefly summarizes the principal suggestions contained in the literature.

Etiology: The literature agrees on the necessity of a complete medical examination which should include personal medical history (e.g. pre-, during-, post-natal complications, early illnesses, etc.) and family history. Etiology is deemed important in terms of action to be taken. For example, some defective conditions if diagnosed sufficiently early in development may respond to medical treatment.

Intelligence: Intellectual functioning should be determined by a competent examiner who administers a wide battery of verbal and performance tests. Although examples of typical tests are cited, no one test or particular battery of tests is suggested. A single score on a single test is insufficient.

Table 8. PSEUDO-FEEBLE-MINDEDNESS

Term	Etiology	Intelligence	Education	Maturation & Social Competence	Psychological	Physical & Environmental	Prognosis
Major Terms : PSEUDO-FEEBLE-MINDEDNESS IMPERMANENT MENTAL DEFECTIVE PSEUDO-SYMPTOMATIC RETARDATION APPARENT FEEBLE-MINDEDNESS	a)brain injuries, early illnesses etc. which may respond to medical therapy or training (6,7,93)	a)insufficient battery of tests and retests,e.g. poor performance on first testing (7,27,73,176) b)inadequate examiners (27,176) c)fatigue, hunger, or other temporary handicaps which may negatively influence performance (20,21,27,176)	a)educational neglect (27,73,148) b)inadequate teaching methods (7) c)special disabilities e.g. reading (6,7,175) d)language barriers, e.g. foreign language background (27)	a)delayed development or slow maturation,e.g. speech delays (6,7,27,73,93, 176)	a)personality or emotional problems (73,90,93,98, 149,155,176) b)schizophrenic reactions (90,103,175) c)confusion with mental deviations (27) d)disorders of family relationships,e.g. inadequate mothering (7,27,73)	a)physical handicaps, e.g. hearing,sight, motor coordination (6,7,19, 20,21,73, 93,115, 176) b)environmental deprivation,e.g. poverty, social and cultural lacks (20,21,27, 30,41,66, 73,76,93, 148)	a)defective without organic pathology may be capable of change,e.g. IQ improvement (30) b)normal functioning may be possible when stress is removed (66,93)

Table 9. DIAGNOSTIC CONSIDERATIONS

Term	Etiology	Intelligence	Education	Maturation & Social Competence	Psychological	Physical & Environmental	Prognosis
Diagnostic considerations and problems	a)physical examination including medical history, e.g. record of illnesses (1,20,21,38,42, 45,54,58 78,93, 104,111,128, 134,137,157, 165,171,172, 175,182) b)family history, e.g. defective family members (1,20,54,93, 109,128,134,158, 165,171,172) c)pre-,during, post-natal factors (1,109,128,134, 165,171,172	a)performance on mental exams,e.g. Binet score;self-administering intelligence tests,e.g. Otis (1,20,21,24,26, 37,45,54,58,75, 78,93,111,134, 137,149,157,171, 172,175,182) b)performance tests, e.g. Grade Arthur, Kohs, Paterson Five Figure Board,Witmer Formboard (1,20,24,54)	a)school achievement, e.g. grade, examination of school performance, special abilities and disabilities,e.g. reading (1,20,21,42, 56,58,93,128, 134,149,171, 172,175,182) b)teacher evaluations (20,21)	a)developmental progress,e.g. age of walking, talking (1,6,45,54,56, 78,109,111, 134,157,171, 172) b)social history,e.g. relationship to family members; general behavior (1,20,21,51,55, 75,78,93,134, 171,172,182) c)(adult) whether or not individual is socially competent,e.g. able to independently function; self-supporting (1,32,38,42, 45,56,58,128, 134,175) d)Vineland Social Maturity Score (34,42,51,54)	a)moral reactions (1,58,134, 171,172) b)personality,e.g. presence of emotional disturbances; schizophrenia; behavior simulating deficiency (1,75,76, 90,93, 103,157, 171,172, 175) c)performance on projective tests,e.g. Rorschach, TAT (1,149)	a)past and present environmental status;e.g. poverty, broken home; foster home (1,20,32,66, 67,78,93,149, 157,171,172, 175) b)physical handicaps,e.g. speech (also consider deceptive high verbal ability) sight; hearing; motor disturbances (1,6,20,21,32, 54,55,56,66, 93,109,134,157, 171,172,175, 182) c)cultural influences,e.g. lack of opportunity; standardized culture which may preclude desire for achievement (1,20,21,32,67,76, 93,157,175)	a)judgment that improvement is not possible (42,45)

Education: Grade level, achievement scores, special disabilities and abilities must be evaluated. Although low intelligence may be the single most important factor in school failure, other factors, such as motivation and health, may account for academic failure.

Maturation and social competence: A developmental history should include significant landmarks, such as age of walking and talking. Further maturational history should consider relationships to siblings, to parents, and to persons outside the family. Evaluation of adults should include ability to be economically self-supporting, and socially competent. A measure suggested is the Vineland Social Maturity Scale, designed to estimate level of maturation and social competence.

Psychological: Insofar as possible, a thorough psychological examination should be made. Performance on objective tests, clinical evaluation of personality, and moral reactions should be considered.

Physical and environmental: Writers are in agreement about the necessity of a careful examination of the individual's physical condition and environmental background.

Prognosis: The diagnosis should include some estimate of prognosis.

Summary: Diagnosis is a multi-factorial consideration of many criteria from various points of view. Current intellectual and physical functioning, as well as psychological, environmental, and background history of the individual must be evaluated.

DISCUSSION

The literature in mental retardation contains a large variety of terms, some used synonymously and others involving subtle, often impractical, distinctions. There are different definitions for the same term, and in some instances, a term appears in different kinds of classification systems with different reference. New and specialized terms appear in the literature with remarkable frequency, and the level of usage ranges from popular euphemisms to technical jargon. Consequently, many terms have lost their specificity and validity. Notwithstanding these observations, there appears to be a good deal of agreement about some aspects of the mentally retarded; that is, despite apparent differences, terms dealing with such phenomena as gross levels of retardation and broad etiological groupings do communicate some consistent information. Perhaps communication about mental retardation is possible, in spite of the diffuse terminology, because of the immediacy and concrete nature of the problems involved. Nevertheless, on the basis of the present review of the literature, it seems unlikely that the diversity and lack of specificity of terms is conducive to clear and precise communication.

The current state of confusion in terminology probably reflects the rapid development of interest 100 and activity in the area of mental retardation. Any proposal for clarifying this situation must take into account the fact that many persons with various purposes are taking different actions from different points of view. The diversity of terminology also reflects the lack of a comprehensive and generally accepted theory of mental retardation. There have been numerous proposals concerning specific issues, and there are a number of valuable compendiums of empirical observations; but there is no single set of explicit constructs and theoretical relationships agreed upon by writers in the field. Perhaps the formulation of a special theory of mental 200 retardation is not a valid enterprise because of the heterogeneity of the phenomena involved. 213 Perhaps the lack of a comprehensive, accepted theory is most appropriate at the current stage of knowledge and ignorance in this area. At any rate, the lack of such a theory impedes the development of a formalized, rigorous system of terminology.

In view of these observations, some structuring of the anarchy of current terminology may be useful. Although it is impossible to legislate the usage of particular terms, the information and concepts gained from a review of the literature clarify the problems involved and suggest a direction for further development.

Major Concepts

1. Mental retardation is multi-determined: There is a heterogeneity of etiology of mental retardation; that is, below-normal functioning can be a consequence of many different factors. Insofar as an action taken in any particular case is related to the cause of defective functioning, the concept of heterogeneous etiology is important. Repeated throughout the literature is the thesis that defective functioning is not necessarily a consequence of innately determined intellectual ability; that in a group of persons, there may be widely different causes of retardation; and within any single case, several etiological factors may interact.

This seems to be a reasonable thesis, but the problems of differential and multi-dimensional diagnosis can not be solved merely by devising a system of words. More important, perhaps, are the problems of insufficient knowledge of etiology, inadequacy of measurement, and ignorance of the interrelationships among causal factors and consequences of various actions. Nevertheless, a system of terminology may be helpful in organizing current knowledge and guiding research and practice. For these purposes, the terminology should at least provide some means of explicitly communicating the multi-determinants and interaction of etiological factors. Broad etiological groupings stemming from a nature-nurture controversy probably are of little use for current purposes.

2. Mental retardation is multi-dimensional: Intellectual ability undoubtedly is an important determinant of social competence. However, other important determinants tend to be ignored if the description of a person is made primarily on the basis of intelligence. A characteristic level of intellectual functioning is central to the definition of the area of mental retardation, but other aspects of behavior and status are significant in deciding upon actions and evaluation of consequences. In a sense, almost by virtue of the fact that potential academic achievement of the mentally retarded person is less than that of the normal, other non-academic and non-intellectual aspects of functioning would seem to be more rather than less important in this area. Hence, the terminology should provide some basis for communicating the particular characteristics of a person along many dimensions.

Although the literature suggests that I.Q. alone is not a sufficient basis for terminology and diagnosis, some writers suggest that the various dimensions of functioning are positively interrelated. The intellectually defective person tends to be a physically weaker organism, maturationally retarded, and in some instances psychologically less stable than the normal. However, there is little research that specifies the magnitude of these interrelationships, and certainly it is unlikely that many of these correlations are very high. The various dimensions of functioning are not independent, but they are also not perfectly correlated. Thus, a system of terminology which provides a multi-dimensional profile, rather than groupings based on gross clustering by level of retardation, probably will have eventually a wider range of usefulness.

3. Individual differences among the mentally retarded: Even within one dimension of behavior, and with similar etiologies, there are individual differences among a group of mentally retarded persons. For example, any

given I.Q. actually means different things in terms of actual test performance and intellectual ability. In many dimensions of functioning, these individual differences become even more pronounced.

Since any system of terminology involves abstraction, some information about concrete events necessarily is lost when these events are symbolically represented. Therefore, one aim in developing terminology is to devise a symbolic system which is not unwieldy, but which provides some basis for designating important individual differences.

4. The level of functioning can be maintained or modified: In some cases, appropriate action can result in the reversibility of retardation; in other instances, the level of functioning can be significantly improved; and for some persons, behavior can be maintained and deterioration of functioning prevented. The follow-up research, reviewed in another section, suggests at least modest optimism in the prognosis of some mentally retarded persons; and surely, prognosis should be an important basis for terminology. Unfortunately, the follow-up research does not offer a great deal of information about the kinds of persons who show various types of improvement as a consequence of differential treatment. Terminology and diagnosis, nevertheless, should provide some framework for developing a rational guide, grounded in theory and research, for action which will maximize an individual's level of functioning. At the present time, terminology must be based on some approximation of a useful guide for action, taking into consideration the limitations of current knowledge about prognosis and the potential modification of functioning.

CONCLUSIONS AND RECOMMENDATIONS

The function of terminology is to communicate meanings having some concrete reference agreed upon by those using the terms. However, many different kinds of people are concerned with mental retardation: parents, school boards, pediatricians, psychologists, educators, psychiatrists, and social workers. These groups have different backgrounds, training, and interests, and use terminology for different purposes. Furthermore, various local systems of terminology are more or less entrenched, and may have considerable local validity in view of the particular facilities available and actions that are possible. There are also local differences in the degree of environmental stress and the kinds of environmental demands which interact with the individual's capacity to function. A person may perform successfully in one situation and fail in another. Therefore, a terminology concerned with the adequacy of actual or potential functioning must account for the relativity of success in different environments. A final difficulty is the lack of precise, reliable, valid and generally accepted measures of important variables such as intellectual adequacy, social competence, and emotional adjustment. Without such measures, there is little basis for establishing the concrete reference of terms necessary for efficient communication.

In view of these observations and the current confusion and disagreement found in the literature, it would seem desirable to formulate the general conceptual structure within which the variations in terminology and usage could be made explicit. This general structure would then serve as a basis for developing replicable, operational definitions of terms, assuming that the major problem in current terminology is one of definition rather than the selection of specific words. Thus, the first step is not the compilation of a dictionary of terms; before such a dictionary can have pragmatic and theoretical significance, there must be some standard set of operations for defining words. The usage of different words in various settings probably will continue, but a general system for definition may provide a basis for clarifying differences and eliminating words with little information value.

A Multi-dimensional System of Definition

On the basis of the present review of the literature, a tentative multi-dimensional system for the definition of terms has been developed. The proposed system consists of a number of dimensions concerned with etiology, functioning, status, and prognosis. Each dimension is divided into several sub-categories, representing either qualitative differences, as in etiology, or quantitative differences. The dimensions were derived from the literature, and represent a composite of the aspects of diagnosis and classification suggested by various writers.

The several dimensions are grouped within six broad diagnostic categories: (1) etiology; (2) intelligence; (3) maturation; (4) psychological and social status; (5) physical and environmental status; (6) prognosis.

Classification on the basis of intelligence is divided into six specific dimensions, thus providing a degree of precision which reflects the range of individual differences in intellectual functioning found in the mentally retarded population. In addition to general estimates of intelligence based on dimensions of mental age and I.Q., the present classification also provides for more specific estimates of functioning on verbal and performance tasks. To account for intellectual functioning other than as measured by specific intelligence tests, one dimension considers educational achievement, and a final dimension concerns specific abilities and disabilities. Classification on the basis of these six dimensions would seem to provide a comprehensive description of a person's intellectual functioning, indicating general ability as well as specific strengths and weaknesses.

Maturation is defined on the basis of three dimensions: (1) self-help; (2) motor development; (3) socialization. Specifically, these dimensions concern ability to perform relatively routine tasks, to take care of oneself, and to relate to others. In general, these abilities develop as the child grows older,and the steps from 0 to 9, within each dimension, represent increasingly mature behaviors.

Psychological and social status includes emotional adjustment, social adjustment, and temperament. Emotional adjustment covers various psychodiagnostic categories, ranging from psychotic to relatively normal adjustment. Social adjustment refers primarily to either hostile or withdrawing behavior, and temperament is concerned with characteristic activity level, ranging from either extreme hypo- or hyper-activity to the normal range of behavior.

Physical status is considered in three dimensions: (1) sensory handicap; (2) motor handicap; and (3) speech handicap. Environmental status is defined in terms of the degree and type of environmental deprivation.

The final dimension is concerned with prognosis, and ranges from anticipated deterioration to complete reversibility of retarded functioning.

The present system must be considered only an initial approximation, clearly in need of further refinement. Upon inspection of the general system, a number of problems become obvious. For example, it seems likely that the numerous dimensions derived from the literature are not independent and need to be revised and re-grouped. While it is advantageous to begin with a relatively large number of dimensions covering a wide range of information, further research may suggest a more efficient organization. Similarly, the steps or sub-categories within each dimension are likely to require further revision and refinement. Finally, there must be a more specific designation of the operations defining each dimension. In its present form the proposal consists of a variety of dimensions with descriptive sub-categories. But if terminology is to move in the direction of operational definitions, the operations must be specified. In short, this proposal is offered as a first draft, approximating what a systematic method for definition might be like. Perhaps the major value of this proposal is to illustrate the type of procedure recommended for the clarification of terminology.

Despite the obvious limits of the proposed system, certain advantages are apparent. First, the development of a system like the one outlined would provide some standardized set of reference for defining terms. It is unlikely that one set of terms will be accepted and found to be generally useful in the variety of settings in which problems of mental retardation are of concern; but a standard system of defining terms would provide a common basis for communication and translation from one set of usages to another. One consequence might be recognition of the synonymous usage of different terms, the impracticability or uselessness of certain subtle distinctions, and the gradual evolution of a standard system of accepted terminology. Another value of such a system lies in the possible coordination of further research in terminology and diagnosis. For example, the proposed system could be treated as a basis for classification, using standard content analysis techniques which would provide an extraordinary degree of precision and flexibility. Further research might investigate the interrelationships among the various dimensions;. other research might be directed at methods of summarizing the descriptive data, using various scores, cut-off points, or profiles, and relating this information to educational and therapeutic goals.

Table 10

Recommended Basis for Defining Terms

Etiology (code one or more and add sum of code numbers)

1	None	
2	Genetic Types	syndromes which are genetically determined e.g., genetic microcephaly
4	Medically classified clinical types of undetermined etiology	e.g., mongoloidism
8	Traumatic	a result of injuries sustained during birth, or post-natally e.g., irradiation
16	Infective	due to illness, pre-natal or post-natal e.g., maternal rubella encephalitis
32	Physical deprivation	e.g., thyroid (cretinism) nutritional
64	Sensory deprivation	e.g., blindness deafness
128	Environmental deprivation	e.g., extreme poverty lack of family early institutionalization with severely limited interpersonal experience
256	Psychological disturbance	e.g., schizophrenia
512	Garden variety	individuals with family histories indicating dull normal or lower intelligence

Table 10 (cont.)

Intelligence

Total intelligence (mental age as measured by standard test; e.g., Stanford Binet, WISC; code one)

0	MA	0 - 2 yrs.
1	MA	2.1 - 4.5 yrs.
2	MA	4.6 - 6 yrs.
3	MA	6.1 - 8 yrs.
4	MA	8.1 - 9 yrs.
5	MA	9.1 - 10 yrs.
6	MA	10.1 - 11 yrs.
7	MA	11.1 - 12 yrs.
8	MA	12.1 - 13.4 yrs.
9	MA	13.5 yrs. or more

Table 10 (cont.)

Intelligence

Intellectual Retardation (IQ; code one)

0	I.Q.	0 - 19
1	I.Q.	20 - 39
2	I.Q.	40 - 49
3	I.Q.	50 - 59
4	I.Q.	60 - 64
5	I.Q.	65 - 69
6	I.Q.	70 - 74
7	I.Q.	75 - 79
8	I.Q.	80 - 84
9	I.Q.	85 or more

Table 10 (cont.)

Intelligence

Symbolic Intelligence (Measured by tests involving primarily symbolic intelligence; e.g., verbal part of WISC, vocabulary, reasoning, arithmetic items on Binet. Code mental age level which best describes current functioning. Refer to Binet or WISC for specific criteria; code one)

0	M.A.	0 - 2 yrs.
1	M.A.	2.1 - 4.5 yrs.
2	M.A.	4.6 - 6 yrs.
3	M.A.	6.1 - 8 yrs.
4	M.A.	8.1 - 9 yrs.
5	M.A.	9.1 - 10 yrs.
6	M.A.	10.1 - 11 yrs.
7	M.A.	11.1 - 12 yrs.
8	M.A.	12.1 - 13.4 yrs.
9	M.A.	13.5 yrs. or more

Intelligence

Performance Test Intelligence (Measured by tests primarily involving performance items; e.g., performance part of WISC, Arthur Performance Scale; code one)

0	M.A.	0 - 2 yrs.
1	M.A.	2.1 - 4.5 yrs.
2	M.A.	4.6 - 6 yrs.
3	M.A.	6.1 - 8 yrs.
4	M.A.	8.1 - 9 yrs.
5	M.A.	9.1 - 10 yrs.
6	M.A.	10.1 - 11 yrs.
7	M.A.	11.1 - 12 yrs.
8	M.A.	12.1 - 13.4 yrs.
9	M.A.	13.5 yrs. or more

Intelligence

Educational Achievement (Estimated grade level achievement on basis of standardized tests, e.g., California Achievement Tests or Readiness Test; code one)

0	None
1	School readiness
2	First grade
3	Second grade
4	Third grade
5	Fourth grade
6	Fifth grade
7	Sixth grade
8	Seventh grade
9	Eighth grade or more

Table 10 (cont.)

Intelligence

Specific Abilities or Disabilities (Abilities above normal range; disabilities indicating functioning at least 2 yrs. below expectancy based on total M.A. code one or more and add sum of code numbers)

1	No special ability or disability
2	Specific disability other than those listed (e.g., memory)
4	Specific performance disability (e.g., inability to perform tasks at least 2 yrs. below M.A. expectancy
8	Specific symbolic disability (e.g., reading arithmetic)
16	Specific ability other than those listed
32	Specific construction ability (e.g., handicrafts)
64	Specific artistic ability
128	Specific memory ability
256	Specific verbal ability (e.g., reading writing vocabulary)
512	Specific arithmetic ability

Maturation

Self-help (code one)

0 Totally helpless cannot feed self cannot dress self not toilet trained can only function in protected environment (home, institution) with complete help

1 Almost helpless cooperates in being fed may finger feed self some foods cooperates in being dressed not toilet trained but may request toilet can function in protected environment with much help

2 Partial self-help in simplest tasks can eat and drink with assistance can perform simplest dressing tasks (e.g. put arms through shirt, pull dress over head) with assistance but for most clothes must be dressed by others some toilet training, but irregular, and frequent lapses can function in protected environment with some help or close supervision

3 Self-help in simplest tasks can eat and drink alone without active help but much supervision can put on simplest clothes alone with supervision, but for more complicated tasks, such as buttoning, needs to be dressed by others toilet trained during the day with occasional lapses, particularly under stress, and needs much supervision at toilet can function in protected environment with moderate supervision

4 Can do some routine tasks alone with supervision can eat and drink alone with only some supervision can dress self, needs supervision, occasional help for more complicated dressing tasks toilet trained with occasional lapses, and needs some supervision at toilet can function in protected environment with occasional supervision

5 Can do many routine tasks alone with some supervision can eat and drink alone with only occasional supervision can dress self, needs some supervision for more complicated dressing tasks toilet trained, needs only occasional supervision at toilet can function in protected environment largely without supervision

6 Can do most routine tasks with only occasional supervision may eat and drink alone dress self toilet trained but needs help or supervision in one area of self-help (eating, dressing, toilet training) can function outside of protected environment (home, institution) without supervision

7 Can do almost all routine tasks alone can eat and drink alone dress self toilet trained but occasional lapses or regression particularly under stress, requiring help or supervision can function outside protected environment with some supervision

8 Can do routine tasks alone but needs help in more complex decisions can eat and drink alone dress self toilet trained can function outside protected environment with minimal supervision

9 Can make independent decisions complete self help can function without supervision in normally complex environment

Table 10 (cont.)

Maturation

Motor Development (code one)

0 Total or almost complete lack of motor development   cannot stand

1 Extends arms   bounces   pivots   stands momentarily   grasps over reaches   plays with and explores toys   creeps   walks runs without falling and squats in play   casts objects   builds tower   turns pages of book   makes tiny marks with crayon

2 Walks on tiptoe   jumps   runs   pushes toy   runs, gallops, and swings to music   fingers water   manipulates clay   puts on and buttons shoes

3 Can throw ball   active, runs up and down stairs   good balance (carries breakable objects)   crude designs with pencil   begins to copy   uses scissors   can ride tricycle

4 Ease and control of bodily activity   changes posture while playing   climbs   alternates feet on stairs   attempts to roller skate   jumps rope   manipulates sand   can mold objects with clay   can build with blocks   can paint

5 Very active   wrestling   tumbling   pushes furniture   digs   tries skating   active balance   swinging   playing   can utilize varied materials   cuts   pastes   tapes   attempts to sew   prints large letters

6 Repeats performances   "runs" on certain activities   jump rope   skating   limited use of bicycle   some caution in gross motor activities   pencils tightly gripped   tendency to heavy pressure   prints several sentences   boys can saw a straight line   girls can color and cut paper dolls

7 Body movement rhythmical and graceful   boy can play soccer ball   girls can play jump rope   stance and movement free   writes and prints accurately with fairly uniform letters   some perspective in drawing   draws action figures in good proportion   girls can now hem a straight edge in sewing

8 Works and plays hard   interest in own strength   wrestling   learns to perform skilfully in team games   can hold and swing a hammer well   saws accurately   handles garden tools   can dress rapidly   builds complex structures with erector set   girls can cut and sew simple garments and can knit

9 Motor development characteristic of mature adult

Maturation

Socialization (code one)

0 Little or no socialization except as object of care of others may recognize some familiar figures

1 Relates primarily to mother (or mother substitute) limited relationship to other adults recognizes other familiar figures, not interested in sibs, other children plays alone

2 Can relate to more than one adult recognizes other children parallel play with other children non-cooperative with other children but may like to be with others

3 May relate well to familiar adults may get on well with older sibs or other familiar older children, but not with younger children no distinction between sexes may have temporary attachment to one playmate conversations with other children

4 Realization of other children as separate entities more interested in children than adults some cooperative play, some imaginative play with other children may have special friend

5 May resist parental authority plays well, cooperative play with other children in small groups frequent grouping and regrouping prefers children own age

6 Growing independence from adults interest in making friends likes to be with friends has two-way interaction with other child aware of social rules

7 Increased awareness of attitudes and standards of others cooperates in group, may be controlled by criticism of others may have best friend tends to play with children of same sex plays more or less consistently with same small group

8 May have close chum of same sex and age gets on well in general with playmates may form informal club or group for definite purpose, interested in success of club or group rather than individual enjoyment

9 Interpersonal relations characteristic of adolescent and adult close friend of opposite sex organized, complex group relations awareness of social standards, roles

Table 10 (cont.)

Psycho-social Status

Emotional Adjustment (code one)

0 Extremely disturbed   schizophrenic   almost requires institutionalization

1 Extremely disturbed   manic-depressive   may be either manic, depressive, or with cyclical shifts   requires institutionalization at least during episodes

2 Extremely disturbed   paranoid   systematized delusions

3 Extremely disturbed   organic psychosis, e.g., paresis

4 Severely disturbed   generalized and severe anxiety, tension, neurotic manifestations, e.g., obsessive-compulsive, phobic conversions   perhaps borderline psychotic   in general, maintains contact with reality but functioning severely limited at least in part as a result of emotional maladjustment

5 Moderately disturbed   high anxiety, tension, somewhat less generalized than severe category   some neurotic manifestations emotional maladjustment seriously interferes with efficient functioning   susceptible to severe disturbance under mild stress

6 Mildly disturbed   some anxiety, tension, or depression which interferes somewhat with efficient functioning   may show mild neurotic manifestations   may become severely disturbed under moderate to severe stress

7 Specific emotional disturbance, moderate to severe, general emotional adjustment within normal range, but moderate to severe anxiety and tension in specific situations, e.g., moderate to severe test anxiety

8 Specific emotional disturbance, mild   general emotional adjustment within normal range, but mild to moderate anxiety in specific situations, e.g., mild to moderate test anxiety

9 Emotional adjustment within normal range of anxiety, tension by and large, emotional adjustment does not interfere with efficient functioning

Table 10 (cont.)

Psycho-social Status

Social Adjustment (code one)

0 Extremely maladjusted - aggressive antisocial acts out strong hostile, antisocial impulses may be psychopathic requires institutionalization very dangerous

1 Extremely maladjusted - withdrawn asocial behavior requires institutionalization

2 Severely maladjusted - aggressive frequently acts out hostile, antisocial impulses may be psychopathic frequently disobeys social rules or laws requires strict supervision can be or is potentially dangerous to others or self

3 Severely maladjusted - withdrawn asocial behavior usually not requiring institutionalization but strict supervision

4 Moderately maladjusted - aggressive unstable, unpredictable, sometimes acts out fairly strong hostile impulses, e.g., violent temper tantrums possibly psychopathic sometimes disobeys social rules or laws requires some general supervision and strict supervision during episodes during outbreaks possibly dangerous to others or self

5 Moderately maladjusted - withdrawn unstable, unpredictable, sometimes periods of withdrawal requires some general supervision, particularly during periods of withdrawal

6 Mildly maladjusted - aggressive occasionally acts out hostile, antisocial impulses, e.g., temper tantrums occasionally may break social rules or laws usually not dangerous

7 Mildly maladjusted - withdrawn occasionally withdrawn, but does not require supervision

8 Adjustment within normal range tends to be somewhat aggressive

9 Adjustment within normal range tends to be somewhat withdrawn

Table 10 (cont.)

Psycho-social Status

Temperament (Activity level; code one)

0	Extremely hyperactive and unstable totally incapable functioning
1	Extremely hypoactive placid totally incapable functioning
2	Severely hyperactive highly unstable may have short periods of stability but usually severely hyperactive incapable of concentrated functioning except for very brief periods
3	Severely hypoactive placid may have short periods of some activity but usually severely hypoactive incapable of functioning except for very brief periods
4	Moderately hyperactive unstable may alternate between periods of normal activity and periods of hyperactivity or may generally exhibit moderate degree of hyperactivity functioning, particularly tasks requiring accuracy or concentration, impaired by hyperactivity
5	Moderately hypoactive placid may alternate between periods of normal activity and periods of hypoactivity or may generally exhibit moderate degree of hypoactivity functioning usually at very slow pace
6	Mildly hyperactive tends to be somewhat unstable may show periods of normal activity level with occasional episodes of hyperactivity functioning, particularly tasks requiring accuracy and/or concentration, somewhat impaired by activity level
7	Mildly hypoactive placid tends to be sluggish may show periods of normal activity level with occasional episodes of hypoactivity or may generally exhibit mild degree of hypoactivity and sluggishness functioning, particularly on speeded tasks, somewhat impaired general functioning at slow pace
8	Somewhat hyperactive, but within normal range of activity level, no apparent impairment of functioning
9	Somewhat hypoactive, but within normal range of activity level, no apparent impairment of functioning

Table 10 (cont.)

Physical and Environmental Status

Sensory Handicap (vision and hearing; code one or more and add sum of code numbers)

1	Totally or almost totally blind
2	Totally or almost totally deaf
4	Severely handicapped in seeing vision not correctible by glasses
8	Severely handicapped in hearing has difficulty when wearing hearing aid
16	Moderately handicapped in seeing glasses needed but vision somewhat limited even with glasses
32	Moderately handicapped in hearing hearing aid needed but hearing somewhat limited even with hearing aid
64	Mildly handicapped in seeing some correction needed may wear glasses with glasses no handicap in seeing
128	Mildly handicapped in hearing some difficulty in hearing may wear hearing aid with hearing aid no handicap in hearing
256	Minimally handicapped in either hearing or vision minor difficulty in hearing or vision, but need not wear glasses or hearing aid vision and hearing adequate for normal functioning without glasses or hearing aid
512	No handicap in either vision or hearing

Table 10 (cont.)

Physical and Environmental Status

Motor Handicap (Sitting balance, arm-hand use, walking; code one or more and add sum of code numbers)

1 Severely handicapped - sitting balance unable to maintain sitting balance unless fully supported

2 Severely handicapped - arm-hand use unable to use arms and hands for any self-help activity

4 Severely handicapped - walking unable to walk

8 Moderately handicapped - sitting balance quite handicapped in sitting in a chair or at a table needs a relaxation chair and a table

16 Moderately handicapped - arm-hand use quite handicapped for using arms and hands for many self-help activities

32 Moderately handicapped - walking quite handicapped in walking cannot walk independently

64 Mildly handicapped - sitting balance somewhat unsteady in sitting in a chair or at a table, but not handicapped in doing so

128 Mildly handicapped - arm-hand use some difficulty in using arms and hands for self help but not handicapped in doing so

256 Mildly handicapped - walking unsteady gait may need braces, but able to get around

512 Not handicapped in sitting balance, arm-hand use, or walking

Table 10 (cont.)

Physical and Environmental Status

Speech Handicap (code one)

0 Extremely handicapped totally without speech

1 Severely handicapped almost totally unable to communicate by speech

2 Moderately handicapped speech hard for a stranger or immediate family to understand hard to get ideas across in speech

3 Somewhat handicapped understood by immediate family but somewhat difficult for stranger to understand able to get simple ideas across in speech

4 Mildly handicapped some difficulty in being understood by a stranger able to get ideas across in speech

5 Minimally handicapped with specific disturbance, i e stuttering or stammering speech can be understood with minor difficulty by a stranger, but stuttering or stammering present

6 Minimally handicapped with specific disturbance, i.e. defective enunciation (e.g., lisping) or pronunciation speech can be understood with minor difficulty by a stranger, but defective enunciation or pronunciation present

7 Minimally handicapped with specific disturbance of rate, tone or volume, e.g., extremely fast or slow speech, tonal peculiarities, extremely loud or soft understood with minor difficulty by stranger, but specific disturbance present

8 Minimally handicapped with no specific disturbance listed in 5, 6, or 7 present

9 No speech handicap

Table 10 (cont.)

Physical and Environmental Status

Environmental status (code one or more and add sum of code numbers)

1	Extremely deprived - little or no social stimulation and customary human environment (e.g., feral man)
2	Severely deprived - institutionalized child without parents or adequate parent substitutes severely restricted environment and little social stimulation
4	Moderately deprived - transient environments inadequate foster home (e.g., frequent changes) and/or institutional care inconsistent, inadequate social stimulation
8	Moderately deprived - severe economic poverty of home environment child lacks adequate physical care, e.g., nutrition, clothing limited social stimulation or opportunity for intellectual development
16	Moderately deprived - emotionally disturbed familial environment parents or parent substitutes emotionally disturbed evidence of strong rejection of child and limited social stimulation or opportunity for intellectual development
32	Moderately deprived - geographical, social, cultural restrictions social prejudices, cultural conflicts, language barriers, geographical isolation resulting in limited social stimulation or opportunity for intellectual development
64	Mildly deprived - economic substandard home environment providing minimal physical care, somewhat limited stimulation and opportunity for intellectual development
128	Mildly deprived - somewhat emotionally disturbed familial environment parents or parent substitutes somewhat emotionally disturbed evidence of some rejection of child and somewhat limited stimulation and opportunity for intellectual development
256	Mildly deprived - geographical, social, cultural restrictions resulting in somewhat limited social stimulation and opportunity for intellectual development
512	Minimal or no deprivation adequate social stimulation and opportunity for intellectual development

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Appendix A

A Review of Follow-up Research

Although a number of writers suggest that prognosis be taken into account in the diagnosis of mental retardation, no current system of terminology provides sufficient basis for classifying mentally retarded persons in terms of future functioning. It is obvious that a valid classification system based on adequate prognostic knowledge would be a major contribution to the field of mental retardation, and in the hope of developing such a system, the mental retardation literature was searched for those studies concerned with follow-up investigations of intellectual, vocational, and social functioning of feeble-minded persons. The following report is a summary of this review. Only those studies which consider the functioning of feeble-minded subjects over periods of time ranging from one to twenty years are reviewed. Research dealing with experimental manipulation of environmental or psychological factors as related to short term changes in behavior, and research involving cross-sectional investigations of relationships between feeblemindedness and various social behaviors are not included.

Employment

A number of studies report that a high proportion (one half or more) of the sample of defectives are able to obtain regular, part time, or full time employment at one time or another in the individual's history. (13, 18, 33, 24, 15, 36, 45, 2, 20, 9, 53, 30, 3, 7, 1, 16, 26, 34) Employment, generally in unskilled laboring occupations, is characteristically of short duration. (4, 36, 24, 53, 55, 8, 2, 30, 9, 15, 13, 16, 26, 34, 18, 36, 45, 24, 53, 33) Positions are frequently changed.(20, 4, 36, 55) Although many studies report widespread employment either of a temporary or permanent status, few studies report a majority of the defectives to be fully or partially self-supporting at one time or another. (15, 3, 9, 16, 45, 24, 33, 14, 34, 13) In contrast to the successful employment records indicated by these researches, other studies report that a high proportion of the defectives are unemployable, unable to obtain work, fail to be economically independent, and require outside assistance. (21, 14, 54, 52, 10, 39) The difference in results might possibly be attributed to differences in intellectual levels considered in the studies. For example, Delp (10)considers individuals of I.Q. below 50, and the results cannot be compared to studies considering individuals with I.Q.'s above 80. However, the rejection of I.Q. as a significant factor by researchers in the field and the subsequent failure to clearly differentiate the samples according to I.Q. as related to work histories and successful employment, make it impossible to judge the influence of I.Q. on successful employment or to compare studies of employed individuals with different I.Q. ranges.

Several studies compare employment histories of defectives with employment histories of normal individuals. (4, 13, 53, 36, 24, 4, 53, 20) Defective persons tend to change positions more frequently than normals. No differences are found in earning power and competence of defectives and normals who hold equivalent jobs. Retarded persons tend to work part rather than full time, hold unskilled positions, and are generally less able to support themselves. Only one study reports more morons than non-morons to be completely self-supporting. (20) Deficient persons do not differ from normals in starting salaries, job stability, pride in job, whether or not they are employed by self or others, and level of first position. (24,20)

Factors related to successful employment and self-support include: the economic state of the country and demand for untrained individuals; presentable physical appearance without noticeable defects; acceptable personalities; positive social adjustment; adequate home environment; extensive training and special education; close supervision; level of intelligence; luck; absence or minimal delinquency history; nature of position; motivation.

(16, 1, 3, 43, 2,16, 39, 45, 4, 10, 13) The research does not agree on factors related to successful employment and factors not related to successful employment. Several studies report that physical appearance, race, environment, intelligence, economic state of the country, family, environment, and past history are not related to employment. (24,20) Therefore, it is not possible to make any definitive statement as to factors which significantly contribute to independent and successful occupation of feeble-minded persons.

Conclusions regarding employment potentiality and performance of defectives must be considered as tentative estimations of the potential and performance of a heterogeneous population whose members are not comparable in physical, intellectual, or personal adjustment. With this reservation, it is nonetheless evident from an examination of the research that some persons with below-normal I.Q.'s, if trained and properly supervised, can perform unskilled tasks. Under optimal environmental conditions some defectives can be self-supporting; others are completely dependent. Defectives tend to change jobs frequently but under certain conditions compare favorably to normals with regard to regularity and quality of work performance.

Education

High grade defective persons who are assigned to regular classes complete about six grades of a traditional academic curriculum. Low grade defectives in ungraded classes finish approximately four or five years of study. (8, 9, 24, 34, 13, 4) Under unusual conditions and given strong motivation, a few individuals may successfully complete higher grades. Baller, for example, reports that one subject graduated from high school and attended college for a year. (4) Effects of education as determined by self-report of the subjects and observations by researchers include interest in hobbies, improved social behavior, increased effective communication, and vocational skills.

(4, 24, 10, 8, 3, 39) Fairbanks states that schooling which instilled "old-fashioned morality" was positively related to successful vocational and social adjustment. (13)

The effect of teaching methods on improved intellectual performance has been examined by Schmidt and by Hill.* (44, 19) Schmidt reports significant I.Q. increases as a consequence of specialized teaching methods and individualized curriculum; however, Hill's research contradicts Schmidt's findings. No conclusion, therefore, can be made about the effects of special education on I.Q. changes.

In summary, education of the feebleminded is limited to approximately five years of attendance in regular or special classes. Improvement of I.Q. is questionable; however, training and education may contribute to improved social and personal behavior, and vocational skills.

Supervision

Studies considering the effects of supervision on economic success and social adjustment generally agree that a high proportion of the subjects required guidance and supervision. (7, 12, 15, 16, 21, 30, 45, 61) Actively supervised defectives had greater prospects of becoming more successful than individuals who were not supervised or who received only occasional guidance. (7, 15, 16, 30, 45) Supervision and guidance, although varying according to the individual's need, implied employment placement, and recommendations regarding social and family behavior. Only one study reports that a low proportion of the sample population required any form of guidance, (13) and only one research found that retarded individuals did not differ from non-retarded individuals in the need for supervision. (20)

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* The validity of Schmidt's data has been challenged. (25, 35)

Generally, therefore, feebleminded individuals who are actively supervised over relatively long periods of time according to professional recommendations, have relatively greater prospects of becoming successfully adjusted than feeble-minded individuals who are not guided or supervised.

Recreation

Leisure interests of feeble-minded persons include a range of activities such as television viewing, reading, church attendance, and pursuit of hobbies acquired in school. (20, 8, 10, 13, 39, 53) Jastak reports that retarded persons have a range of interests similar to normals. (20) The research generally agreed that defectives tend to be submissive in social situations and prefer solitary activities revolving around home and the church.

Marriage

Baller (4) and Charles (9) find that fewer defectives than normals marry, in contrast to a majority of studies which report that a high proportion of non-institutionalized male and female defectives marry or enter common-law relationships. (13, 9, 5, 34, 15, 8, 4, 20) In comparison to male defectives, female defectives marry younger, select a more intelligent mate, and are more successful in maintaining relatively stable family relationships. (4, 8, 13, 20, 22) I.Q. of females is not related to age of marriage; females of low I.Q. are more successfully married than females of higher I.Q. (22) Kaplan (22) concludes that adequate personality and sterilization are two factors which may possibly contribute to successful family life of low I.Q. females.

Several studies found a high proportion of the sample to be successfully married, with marriage stability comparable to national norms. (24, 20, 9) However, a majority of studies conclude that marriage of defectives or retarded persons are of varying stability, produce more children than normals, and are characterized by frequent separations and divorces. (4, 9, 13, 24, 22)

Health and Institutionalization

Health and general physical appearance of a high proportion of defectives is reported to be good by several studies. (20, 8, 9) Other studies find that feeble-minded individuals have a higher than normal death rate, are particularly susceptible to tuberculosis and other respiratory illnesses. (4, 9) Charles (4) and Baller (9) concluded that among defectives there is a positive correlation between intelligence and life span.

The data regarding the percentage of subjects who, after a period of time, are reinstitutionalized is vague. Baller, however, specifically stated the 7 per cent were reinstitutionalized and, if the number included those who died in institutions and those who were paroled, the figure would be 11 per cent. If subjects committed to reformatories were included, the percentage would double.

Social Adjustment

A number of studies conclude that a high proportion (one half or more) of the subjects are making a satisfactory adjustment. (21, 20, 52, 14, 8, 4, 15, 33, 28, 30) Generally satisfactory adjustment means the ability to conduct oneself without too many major offenses of misconduct, the ability to function on a job or, if unable to work, the ability to be managed without too much supervision. Other studies report that a high proportion (one half or more) of the subjects are making a less than satisfactory adjustment, have court records, are troublesome personally, and function marginally in the society. (14, 21, 4, 5, 45) On the other hand, several researches report that a high proportion (one half or more) of the subjects are failing to make an adequate adjustment and are, for the most part, dependent on others for help, have extensive court records, and are limited in the ability to conduct themselves according to acceptable social standards. (54, 37, 6, 17, 39)

Interpretation of what constitutes adjustment differs considerably among the various studies. Adjustment can imply a successful marriage, partial employment, total self-support, or merely the ability to control anti-social impulses or remain alone in the home for a short period of time. Evaluation of social adjustment, therefore, depends on the criteria used in an individual study.

Although analysis of the various studies indicates possible trends of social behavior of the defectives, it must be noted that in many ways the various studies are not comparable. For example, studies of social adjustment include populations of varying I.Q.'s and age ranges. Jewell (21) considered the social adjustment of subjects ages 7 to 25 without clear indication of the influence of maturation on behavior, while Bijou (5) examined the adjustment on a scale from incapable to excellent but failing to indicate the I.Q. or age distribution in each category of social adjustment.

Factors reported to be associated with social adjustment of persons classified as below normal in intelligence are: extent of training, supervision, schooling, and intelligence; personality attitudes and emotional environment; physical appearance and health. Factors which were not associated with the social adjustment of persons classified as below normal in intelligence are: age, intelligence, and extent of previous training; psychological disturbances; economic status. It is evident that factors considered to be independent of social adjustment were also found by other researchers to be related to successful social adjustment.

The research generally suggests that given extensive training and adequate supervision both with regard to personality and employment, the feeble-minded person can, in some instances, make a moderately successful adjustment in the community. However, careful training and guidance are necessary if the legal codes of society are not to be violated.

I.Q.

Changes in I.Q. on the basis of test-retest data are available in relatively few follow-up studies. The studies which investigated I.Q. changes include research specifically concerned with measuring I.Q. changes as related to training or therapy and studies which considered I.Q. as part of a major investigation of many behavioral factors. A number of studies report that I.Q. of subjects classified as below normal in intelligence increased significantly as a result of training, psychotherapy, institutionalization, and post-school experiences and supervision. (34, 36, 43, 50, 31, 16, 9, 57) In contrast, other researches report that I.Q. of subjects classified as below normal in intelligence remain constant or decrease significantly. (19, 38, 13, 10, 39, 51) I.Q. of defectives is reported to decrease with age, with the greater losses occurring with lower mental ages. (27) Other research reports that the I.Q. of defectives decreases with age with the greater losses occurring with higher mental ages. I.Q. of children below ten years of age decreases, and I.Q. of children above ten years of age tends to show an increase. (10, 39, 51)

Interpretation of these results is complicated by the fact that different tests were used for initial and follow-up testing. Rarely has the entire initial sample been tested in the follow-up because of a lack of cooperation, deaths, or failure to locate subjects. It is difficult to estimate the degree and direction of bias introduced by these factors; however, these facts contribute to the tentative nature of possible conclusions about changes in I.Q.

Although there appears to be some inconsistency among the studies reviewed, in general studies reporting increases in I.Q. have involved intervening factors such as enriched environment, specialized training, and psychotherapy. Perhaps the differences among the studies reporting increases and decreases in I.Q. can be accounted for by the differences in the intervening experiences of the subjects.

The relationship between I.Q. and various follow-up measures of successful adjustment has been investigated by several studies. The conclusions suggest that I.Q. is positively related to successful employment of males, to delinquency, classroom performance, and social adjustment. (1, 17, 10, 4, 8) On the other hand, a review of the studies also suggests that I.Q. is independent of social adjustment, employment, and delinquency of females, length of time on job and wages received. (4, 37, 6, 26, 18, 24) Other studies indicate that I.Q. is negatively related to delinquency, span of life, and health. (4, 16, 13) It is apparent that the results of the various studies are inconsistent in regard to the relationship between I.Q. and delinquency, social adjustment, and some aspects of vocational success.

Summary and Conclusions

The results of follow-up research indicate that some mentally retarded persons can function adequately in society, and that training, supervision, and guidance increase the probability that a retarded person will make a successful adjustment. However, beyond this general conclusion, the follow-up studies do not offer a concrete basis for prognostic terminology.

With few important exceptions, the methodology of the follow-up research does not permit firm conclusions about long term functioning of mentally retarded persons. In most studies, subjects were incompletely and often vaguely described. Other than some indication of I.Q. level, few studies made a serious attempt to describe their samples in any detail. Moreover, there was wide variability from study to study in the kinds of subjects considered, and there is almost no basis for evaluating the reliability of the findings of one study in terms of other comparable research. Periods of follow-up ranged from one to twenty years, and often it was difficult to determine the exact period covered by the research. Also, while some studies began with a relatively large sample, careful inspection of the data frequently revealed that few subjects were actually followed for the total time reported in the research. Measurement of variables was often gross and unreliable, with little apparent concern for validity of the measurement procedures used. Many studies focused on limited aspects of one kind of functioning, and provided no information about other facets of the subjects' lives, making it impossible to derive any over-all conclusions about total functioning.

In general, the results of many of the studies seem to be reflections of the particular biases of the researchers, with cycles of optimism and pessimism running through the literature. Few studies take into account the social conditions which their subjects encountered, an important fact to note in that successful functioning is not only a function of the subjects but also of the stresses in the society in which the person attempts to adapt. In summary, the follow-up research is characterized by biases of varying degrees of subtlety, by confusion and contradiction, by inadequate and inaccurate presentation of data and results, and by striking inconsistencies within and between studies.

Notwithstanding the shortcomings of the great majority of studies in this area, the few adequately conducted studies, despite their limitations, demonstrate the potential value of follow-up investigations. Perhaps most important in these future investigations is the need for a standardized and comprehensive description of the subjects which will permit some objective basis for evaluating level of functioning over time. Without such a description, conclusions about follow-up functioning cannot be tied consistently to previous diagnostic information, and there can be no systematic basis for rigorous investigation of prognosis. Thus, if follow-up research is to be conducted in the future, a minimal requirement of such research must be thorough, detailed, and multi-dimensional descriptions of the subjects studied.

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